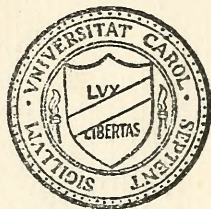


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PUBLICATION No. 206

HANDBOOK

FOR

Elementary and Secondary Schools

1938



ISSUED BY THE
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
RALEIGH, NORTH CAROLINA

THE OLD NORTH STATE

(Traditional air as sung in 1926)

WILLIAM GASTON

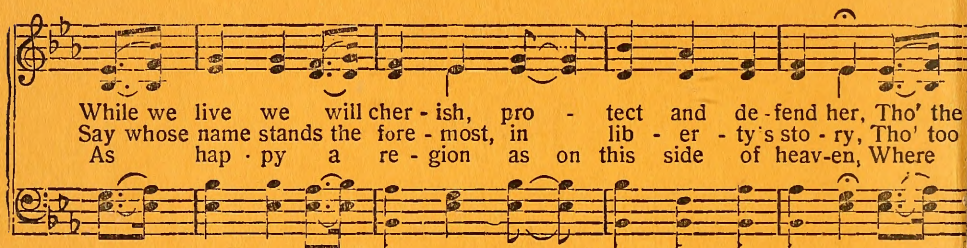
With spirit

COLLECTED AND ARRANGED

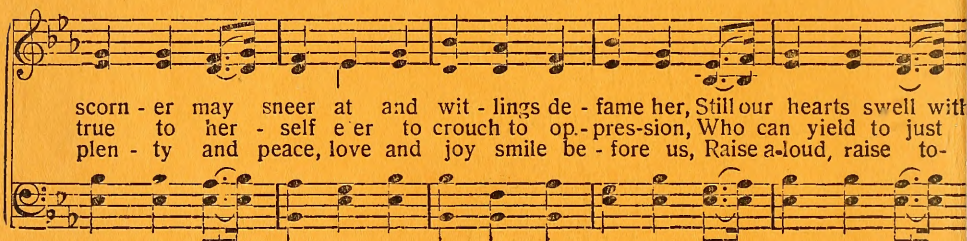
BY MRS. E. E. RANDOLPE



1. Car - o - li - na! Car - o - li - na! heav-en's bless-ings at - tend her,
 2. Tho' she en - vies not oth - ers, their mer - it - ed glo - ry,
 3. Then let all those who love us, love the land that we live in,

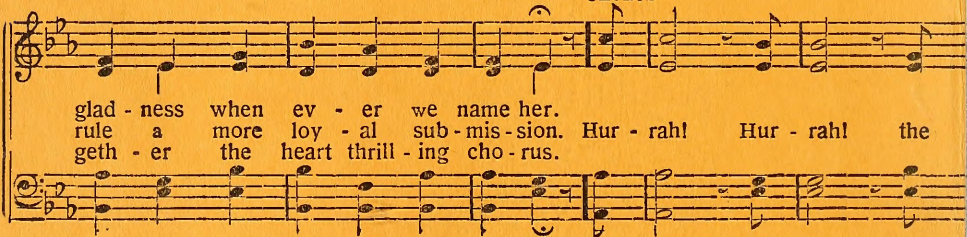


While we live we will cher - ish, pro - tect and de - fend her, Tho' the
 Say whose name stands the fore - most, in lib - er - ty's sto - ry, Tho' too
 As hap - py a re - gion as on this side of heav-en, Where



scorn - er may sneer at and wit - lings de - fame her, Still our hearts swell with
 true to her - self e'er to crouch to op - pres - sion, Who can yield to just
 plen - ty and peace, love and joy smile be - fore us, Raise a - loud, raise to -

CHORUS



glad - ness when ev - er we name her.
 rule a more joy - al sub - mis - sion. Hur - rah! Hur - rah! the
 geth - er the heart thrill - ing cho - rus.



rit.
 Old North State for - ev - er, Hur - rah! Hur - rah! the good Old North State

PUBLICATION No. 206.

HANDBOOK

FOR

Elementary and Secondary Schools

1938



PREPARED BY

DIVISION OF INSTRUCTIONAL SERVICE

J. HENRY HIGHSMITH, *Director*

A. B. COMBS, *Associate*

HATTIE S. PARROTT, *Associate*

H. ARNOLD PERRY, *Associate*

JULIA WETHERINGTON, *Associate*

CHARLES E. SPENCER, *Associate*

ISSUED BY THE

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
RALEIGH, NORTH CAROLINA

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FOREWORD

This Handbook for Elementary and Secondary Schools is designed to supply information needed by superintendents, principals and teachers in the public schools of the State. It covers the program in both elementary schools and high schools, indicating that we regard the process of education as a continuous process from the first grade through the eleventh or twelfth grade. It is hoped that this publication will be helpful from the standpoint of answering questions which arise with reference to administration, organization and supervision of schools and that it will be suggestive of desirable activities which should be undertaken.

It will be observed that this Handbook consists of three parts:

Part I deals with the public school system. Every person engaged in public education should be conversant with the various aspects of public education, including, of course, the administrative aspects. This statement is designed to give something of the background of the public school system and to indicate the organizations or agencies legally responsible for school administration.

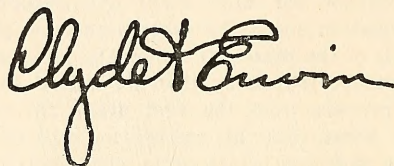
In Part II the standards for accreditation of elementary and secondary schools are set up. The suggested standards are not meant as limits to what may be undertaken in any school, but represent the minimum necessary for the creation of a satisfactory teaching and learning situation. Lines along which improvement can be made will suggest themselves to many administrators and teachers, and it is hoped that many schools in providing educational opportunities will go far beyond the minimum suggested in the requirements for accreditation. Our effort is to indicate what may be regarded as a good elementary school or a good high school. It is admitted, of course, that every child should have training in a good school, and the purpose of standardization and accreditation is to indicate how a satisfactory situation can be provided.

In Part III various aspects of public school work are discussed, particularly those having to do with the materials necessary to successful instruction. More and more it is recognized that abundant materials are necessary in order for pupils to have satisfactory educative experiences. It is hoped that provision will be made for various types of instructional materials to the end that learning on the part of boys and girls may be facilitated and accelerated.

There is evidence of substantial progress in carrying on the educative process in our schools and an improved morale on the part of those who have the responsibilities for school administration and instruction. It is hoped that this Handbook will contribute to more effective instruction and that the education of pupils in all grades in all schools will be stimulated and promoted.

P22829

This publication was prepared by the members of the staff of the Division of Instructional Service. Special acknowledgment is due to Mrs. Juanita McDougald Melchoir, of Syracuse, N. Y., a former member of the Division, for the many contributions which she has made to the Handbook. Acknowledgment is made also to Dr. A. M. Jordan, University of North Carolina, for his contribution on high school tests.

A handwritten signature in cursive script, reading "Clyde E. Ewing". The signature is written in dark ink and is positioned above the title.

State Superintendent of Public Instruction.

May 17, 1938.

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PART I

THE STATE SCHOOL SYSTEM

PUBLIC ELEMENTARY AND SECONDARY SCHOOLS

INTRODUCTION

The story of public education in North Carolina is one of the most thrilling and inspiring pages in our history. It represents a struggle as determined and courageous as that upon any battlefield on which a native son has fought. Through all these years of its history, there has been recognition of the fact that it was only through the raising of the level of intelligence of our people that we could deal effectively with the various social and economic problems which have confronted us. Even in the darkest hours of the War Between the States, when everything else was sacrificed for the soldiers who fought so valiantly in defense of the State, there were wise and courageous souls who, realizing that the battle against ignorance must also go on, kept the torch of education burning. It was well that our forefathers believed that it was only through education that the people of this State could be prepared for the duties of citizenship in a democratic government.

Our system of public education has grown along with the social, economic and industrial life of the State. Through the years, as we have cleared our fields, harnessed our streams, builded our cities and linked our people together with ribbons of concrete and steel and wire, we have also struggled for knowledge, for self-respect and for social mastery. These hundred years though long in the life of an individual are short in the life of a state. It is not to be expected that in the short period of a century we should have perfected any agency contributing to social mastery. Certainly the ideal of universal free public education has not been fully achieved in practice. We must continue to work at this problem. Aside from adequate provision for the health and safety of our people, the most important function of our government is the proper education of its youth.

The magnificent progress in public education is indicative of a fundamental interest in and thirst for education on the part of our people. They have determined that illiteracy shall be eliminated and that the childhood of each succeeding generation shall be trained in a better way to meet the economic and social demands facing each new generation. In an effort to meet that responsibility we have witnessed in North Carolina one of the most interesting developments in the financing and administration of a public school system. In that respect one of the outstanding achievements has been the final attainment of a State-wide minimum school term of eight months supported almost entirely by the State and without resort to ad valorem taxes. No other state with the single exception of Delaware has ever accepted this solemn responsibility of government as a state enterprise. The result has been that the poorest child living in the most remote section of the State has been guaranteed a minimum standard educational opportunity along with the most fortunate child living in the most populous center, and both have been equally favored from the common resources of the State.

STATE ADMINISTRATION

Constitutional Authority

We start with the Bill of Rights,—“The people have the right to the privilege of education, and it is the duty of the State to guard and maintain

that right" (Art. I, Sec. 27), and the Constitution: "Religion, morality and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged" (Art. IX, Sec. 1).

The Constitution of North Carolina provides for a *Superintendent of Public Instruction*, who shall be elected by popular vote every four years. The Superintendent of Public Instruction is responsible for promoting interest in public education, interpreting the school laws, determining standards for approved schools, assembling and disseminating statistical data, preparing curricular materials for the teachers of the public schools, and such other duties as are or may be vested in him by law.

The State Superintendent is ex officio secretary of the State Board of Education, vice chairman of the State School Commission, chairman of the Board of Trustees of East Carolina Teachers College, and a member of the Board of Trustees of the University. He is also a member of the State Library Commission, and chairman of the State Board for Vocational Education, the State Textbook Commission, and the State Board of Commercial Education. In addition, the State Superintendent, under the law, assists the governor in the appointment of the Elementary Textbook Commission and the State committee on high school textbooks.

The State Superintendent has no direct connection or relationship with State supported institutions of higher learning, which are under the control of separate boards of trustees, except through teacher training regulations of the State Board of Education and as a member of the North Carolina College Conference.

He employs the staff that assists him in these duties.

The *State Board of Education*, consisting of the Governor, Lieutenant Governor, Secretary of State, Treasurer, Auditor, Attorney General and the Superintendent of Public Instruction, is provided for by Article IX of the Constitution. This board has charge of the Literary and Special Building Funds and the public lands owned by the State. It also makes rules governing the certification of teachers, and adopts the textbooks used in the public schools. Originally, this board had authority to legislate and make all needful rules and regulations in relation to free public schools and the educational funds, but its duties in this respect in recent years have been transferred by legislative enactment to the State School Commission.

Legislative Authority

The *State School Commission* was set up by the General Assembly of 1933 to succeed the State Board of Equalization, a body created in 1927 to equalize values in the several counties as a basis of distributing the equalizing fund provided for schools. This commission is composed of the following: the Lieutenant Governor as chairman, the State Superintendent of Public Instruction as vice chairman, the State Treasurer, and one member from each of the eleven Congressional districts appointed by the Governor.

The commission decides what schools are to be operated, has the power to consolidate districts and transfer children from one unit to another, and may suspend any school after six months, whenever the average daily attendance does not justify its continuance. It determines by districts and races the number of elementary and high school teachers to be paid from State

funds, and sets the standards for operating the public schools for an eight months term in each county and city administrative unit.

The commission also provides for and supervises the transportation of pupils at public expense, makes rules and regulations governing the financial management and control of all administrative units, provides for auditing the school funds, approves the election of county and city superintendents, and jointly with the State Board of Education determines and fixes a State standard salary schedule for teachers, principals, superintendents and other school employees.

It employs an executive secretary and staff who administer its rules and regulations.

The State Board for Vocational Education was created by the General Assembly of 1917 in order to meet the provisions of the Smith-Hughes Education bill enacted by Congress. This board consists of the State Superintendent of Public Instruction and three other members appointed by the Governor—one to represent agriculture, one to represent home economics, and one to represent trades and industries.

The duties of this board are to cooperate with the Federal authorities in the administration of the Federal Vocational Act, to administer legislation enacted by the Congress and the General Assembly of North Carolina pursuant to vocational education. It also formulates plans for the promotion of vocational education as a part of the public school system, and cooperates with the local authorities in the establishment of vocational classes.

The State Superintendent with the advice and consent of the board designates the staff necessary to carry out properly the provisions of the law and the rules and regulations of the board. The State Superintendent is also required to prepare a report concerning the condition of vocational education.

The State Board of Commercial Education was created by the General Assembly of 1935 to regulate the establishment and operation of business schools teaching business subjects for compensation. This board consists of the State Superintendent as chairman and secretary, the Director of the Division of Instructional Service, the Director of the Division of Vocational Education, and two persons, appointed by the Governor, who are owners and operators of licensed business or commercial schools that have been in operation within the State for five years.

The State Textbook Commission was also created by the General Assembly of 1935. This commission consists of five members: the State Superintendent of Public Instruction as ex officio chairman, the Attorney General, the Director of the Division of Purchase and Contract, and two members, to be appointed by the Governor, for a term of two years each. It is the duty of this commission to purchase the necessary textbooks, operate a rental system of textbook distribution to the children in the public high schools of this State, and provide free basal textbooks to the children in the elementary grades.

This commission should not be confused with the (Elementary) *Textbook Commission* and the *State Committee* for high school textbooks, which are in fact sub-committees of the State Board of Education, composed of persons actually engaged in school work, whose duties are to examine the books and materials submitted for adoption and to prepare a multiple list from which the State Board makes the adoption.

COUNTY AND CITY ADMINISTRATION

County

There are 100 county administrative units comprising that part of the county outside of the established city administrative units. Where no city units have been established, the entire area of the county is the school administrative unit.

The board of county commissioners, a body provided for under the Constitution, approves that part of the school budget financed by county funds, including funds for the erection and repair of necessary school buildings, and levies the taxes therefor. The commissioners are elected by the people for a term of two years.

The county board of education, consisting of three or five members who are nominated biennially at party primaries or conventions, is appointed by the General Assembly, which meets in January of the odd years, for a period of two, four or six years. The county board of education has the general management and control of the educational affairs in the county administrative unit. This board appoints a county superintendent, subject to the approval of the State Superintendent and the State School Commission, and a school committee for each local district. The county board of education is clothed with those discretionary powers as to the administration of the schools that are not specified in the law or under rules and regulations of the State School Commission. It also decides upon the site and character of all school buildings, and administers the operation of the schools in accordance with the rules and regulations of the State School Commission and the acts of the General Assembly. The county superintendent whose term of office is for two years beginning July 1, of each odd year, is the administrative officer for the county board of education.

City

There are at present 69 city administrative units. Some of these have boundaries coterminous with the boundaries comprising the city governmental area; others have boundaries determined by the board of trustees and the county board of education of the county in which the city is located and approved by the State School Commission. Authority for the establishment of city administrative units is, under the law, vested in the State School Commission, such units to be selected from districts having a school population of one thousand or more.

In each of the city units a *board of trustees* is elected or appointed in the manner prescribed by special or general legislative acts. This board prepares and approves the budgets for current expense and debt service, and capital outlay subject to the approval of the county board of education and county board of commissioners. It also elects a superintendent, subject to the approval of the State Superintendent of Public Instruction and the State School Commission, and elects the teachers and other employees upon the recommendation of the superintendent. The superintendent, who is elected for a term of two years, is the administrative officer of the board of trustees.

The city commissioners, or other tax levying authorities, levy the taxes voted in the city administrative unit for the extension of term or for operat-

ing the schools on a higher standard than that for which the State makes provision, and for debt service. In some units this body collects the taxes, whereas in others this duty is performed by the county commissioners.

LOCAL ADMINISTRATION

The Constitution provides that a school committee consisting of three persons shall be elected biennially in every township. Under legislative authority, however, school committees are now provided for each school district. There are now approximately 825 of these committees, consisting of either three or five members, each appointed for a term of two years by the county board of education. The district committee selects the teachers and principals subject to the approval of the county superintendent and the county board of education, and has general custody and care of the school property in the district. The county board of education may appoint an advisory committee of three members for each school building in the local district, who shall care for the school property, advise with the district committee in recommending teachers, and such other duties as may be defined by the county board of education.

SOME SUGGESTED PRINCIPLES FOR THE ORGANIZATION AND ADMINISTRATION OF OUR STATE SCHOOLS

- I. Organizational and administrative procedures should be as democratically conceived as is feasible,—that is, they should be arrived at principally through a sharing process by superintendent, principal, teacher, and pupil. Only in this way can there be harmony of theory and practice. The autocratic imposition of any plan, however worthy, without due consultation with parents, teachers, and often pupils will militate against its success.
- II. School organization and administration must be based on sound principles governing learning and recognition of the needs of society (of North Carolina life). This means a clear understanding of the purposes for which society has established the school and a definite knowledge of the available resources—financial and professional—which can be utilized in achieving these purposes. (See Publication No. 189, pp. 11-13.)
- III. School organizational and administrative procedures should be economically conceived and executed. After a given policy or procedure has been accepted as educationally sound, has been arrived at through a cooperative thinking and planning conference with the whole faculty, the required outlay of time, effort, and finances should be considered. For example, any scheme which overtaxes the mental and physical health and the emotional morale of the teaching personnel, is, in the long run, extravagant. Any scheme which does not, on the other hand, afford an opportunity for the maximal use of the whole school plant for educative purpose is likewise extravagant.

PART II

STANDARDS FOR ACCREDITMENT OF ELEMENTARY AND SECONDARY SCHOOLS

In setting up objective standards for the accreditation of elementary and secondary schools it is recognized that such standards are not the whole story with reference to accreditation. Standards are set up as an indication of what constitutes or suggests a fairly satisfactory situation for the training of boys and girls in school. It is recognized, also, that there are other elements or factors which should be taken into consideration. However, it is generally admitted that there are items of a purely objective sort which are essential to a satisfactory setup.

In evaluating the work of any elementary or secondary school, due consideration should be given to subjective elements of the situation. In determining what is a good school, every possible factor should be considered. This includes both objective and subjective elements or standards.

The evaluative criteria in any case should include the philosophy, purposes and objectives of the school, the pupil population, the curriculum and courses of study, the pupil activities program, library service, guidance service, instruction, outcomes, school staff, school plant, and school administration.

Standards are necessary, but it should be kept in mind that standards are made for folks and not folks for standards. It is essential to find out what equipment, supplies and other things are necessary in order to create a satisfactory situation for the education of boys and girls. The sole purpose of standardization is to promote the best possible training for all boys and girls in the schools to the end that maximal, desirable results may be achieved.

REQUIREMENTS FOR ACCREDITED ELEMENTARY SCHOOLS

Effective with the close of the 1938-39 session

SUMMARY

I. Curriculum

A six or seven year course of study based on suggestions and practices outlined in Publication No. 189, 1935, "A Study in Curriculums Problems of the North Carolina Public Schools". See Section I below.

II. Instruction

1. **Number of whole-time teachers:** At least one teacher per grade.
2. **Qualifications of teachers:** All certificates must be Primary or Grammar Grade with a majority Class A. Special teachers of music, art, physical and health education, and full-time librarians should hold certificates in their fields. See Section II.

III. Administration

	GROUP I		GROUP II	
	<i>Class A</i>	<i>Class B</i>	<i>Class A</i>	<i>Class B</i>
1. Term-Actual teaching days -----	180	180	160	160
2. Maximum no. pupils in average daily attendance per teacher ---	32	34	34	36
3. Records: An accurate scholastic and attendance record for each child, including health record; the Information Blank for School Beginner should be used for first grade instead of regular health card. See under Section III, standards for keeping and using health records; individual register sheets detached and filed in envelopes.				

IV. Instructional Equipment

1. **Library:** A minimum of two books per pupil in average daily attendance, including designated subjects. See "Library" under Section IV.
2. **Supplementary Readers:** A minimum of 80 books per grade. See "Supplementary Readers" under Section IV; also list printed in Elementary School Register.
3. **Dictionaries:** Dictionaries owned by all pupils in grades 5 to 7, or three dozen dictionaries owned by the school. One teacher's desk dictionary for each room. One unabridged dictionary. See "Dictionaries" under Section IV; also list of dictionaries printed in Elementary School Register.
4. **Maps and Globes:** Eight physical-political, four blackboard outline, two political (United States and North Carolina), and nine United States History maps; a 16" globe, physical-political, with movable meridian. See "Maps and Globes" under Section IV.
5. **Classroom and General Equipment:** This section covers individual classroom and general school equipment, including materials for art, music, and penmanship. See "Individual Classroom and General Equipment" under Section IV.

V. Building and Grounds

Adequate and sanitary: See Section V, "School Plant Requirements". Sanitation must be approved by State Board of Health.

DETAIL REQUIREMENTS

Section I: Curriculum

A six or seven year course of study embracing the subjects outlined in Publication 189, "A Study in Curriculum Problems of the North Carolina Public Schools", and those required by special legislation.

Section II: Instruction

Accredited schools must present a planned program of learning for each student, based upon the actual daily needs of the individual. Methods, pro-

cedures, and practices in the instructional program must be based upon accepted modern, up-to-date educational theory.

At least one teacher must be provided for each grade. All teachers' certificates must be either Primary or Grammar Grade certificates with a majority Class A. Blanket high school certificates held by teachers who have had experience in grammar grade work will be approved. High school subject certificates will not be approved in any grade in the elementary school.

Section III: Administration

Administrators are urged to organize their schools so as to achieve a distribution of pupils which will equalize to some extent the teacher load. Individual room memberships should be kept as low as possible; schools with seriously overcrowded classrooms will not be accredited.

The administration of the school must reflect a well-integrated and coordinated program of work. Careful attention must be given all administrative details such as cleanliness and care of school property; selection, storage, and use of supplies and equipment; and accuracy and completeness of permanent school records.

Class A schools in Group I must operate a minimum of 180 days with an average daily attendance per teacher of 32 or less. This implies local supplementation of the State allotment of teachers. Class B schools in Group I must operate a minimum of 180 days with an average daily attendance per teacher of 34 or less.

Class A schools in Group II must operate a minimum of 160 days with an average daily attendance of 34 or less per teacher. Class B schools in this group are allowed a maximum of 36 pupils in average daily attendance per teacher.

It is important that accurate scholastic and health records be kept. Cumulative personal histories and personality development studies for each pupil should be added to the files. A significant beginning has been made in the case of the child entering school for the first time. See "Beginners' Day Program" elsewhere in this Handbook. Cumulative records are in some respects more important than report cards to parents. Each child should have an individual envelope or folder into which should go the completed register sheets for the pupil and data covering pertinent information about the child. It should include health reports, behavior notes, standard test profile sheets, and anything that is helpful in interpreting the child's growth and development.

Because of the importance of health records the following standards have been prepared:

1. School Files Should Contain:

- (1) A beginner's record card for each pupil. (Either the regular "Information Blank for School Beginner", obtainable from the State Department of Public Instruction, or a simplified form based on this blank may be used.)

- * (2) A permanent record card for each pupil which provides space for records of at least four examinations. (The regular form from the State Board of Health is preferred.) This record should give the following essential information:

Date of examination.

Name, address, sex, age, exact date of birth, and nativity.

Report of examination relative to height, weight, vision, hearing, teeth, nose, throat, skin, heart, posture, immunization, needed corrections and treatments.

History of previous illness.

History of operations and injuries.

Facts regarding home conditions and family history of disease and death.

Signature and title of examiner.

2. Health Records Should be Used:

- (1) To keep a record of body growth and maintenance needs over a period of years.
- (2) To interest individuals in personal fitness.
- (3) To encourage the practice of having periodic medical examinations.
- (4) To supply a basis for the selection of instructional materials for group and individual conferences.
- (5) To evaluate health procedures in the school and home.
- (6) To improve the type and methods of record-keeping.

Section IV: Instructional Equipment

LIBRARY

I. Books

A basic *minimum* book collection, averaging *two* books per pupil in average daily attendance, selected from the State approved list of books for elementary schools and including the distribution indicated below. Duplications are not counted in the first 500 books. Textbooks are not counted as library books.

1. Approved children's encyclopedia—One set (Named in order of preference)

Compton's Pictured Encyclopedia. F. E. Compton Co., Chicago.

World Book Encyclopedia. W. F. Quarrie Co., Chicago.

Britannica Junior Encyclopedia. Encyclopedia Britannica, Inc., New York City.

2. Unabridged Dictionary—One

Webster's New International Dictionary. Unabridged. G. and C. Merriam Co., Springfield, Mass.

3. *Types of Books*

Minimum Collection

Civics and Citizenship	10
Science	10
Useful Arts	
Inventions, Machinery	5
Health	10
Industrial Arts	10
Fine Arts	
Art	10
Music	10
Literature	
Stories, Fairy Tales, etc.	80
Poetry	20
Geography and Travel, including Atlas	40
History and Biography	40
Easy Books for Grades 1-3	
20 Books <i>Each Classroom</i>	60

After the above minimum collection has been secured, books should be added in all fields, so that the library averages at least two books per pupil. A good percentage distribution guide for the book collection follows:

<i>Types of Books</i>	<i>Average Distribution</i>
Civics and Citizenship	3%
Science	10%
Useful Arts	4%
Fine Arts	5%
Literature	25%
Poetry	3%
Geography and Travel (including Atlas).....	12½%
History and Biography	12½%
Easy Books for Grades 1-3.....	25%

II. Magazines

Minimum of *five* magazines of an elementary school reading level.

The following is a suggested list:

*American Boy	**National Geographic Magazine
*American Girl	
Asia	**Nature Magazine
Bird Lore	Open Road for Boys
*Boy's Life	Popular Mechanics
**Child Life	*Popular Science Monthly
*Current Events	Radio News
Everygirl's Magazine	Safety Education
*Hygeia	School Arts Magazine
Junior Home	*St. Nicholas
**Junior Red Cross Magazine	Wee Wisdom
**My Weekly Reader	

First choice titles are double starred; next additions are single starred, and other magazines listed are desirable.

Magazine subscriptions can be placed with reliable dealers who will give combinations and discounts not possible with individual subscriptions. The following dealers are satisfactory:

F. W. Faxon Company, 83 Francis Street, Boston, Mass.

Mayfair Agency, 51 East 33rd Street, New York City.

Washington News Company, 1121 Fifth Avenue, Washington, D. C.

Upton G. Wilson, Madison, North Carolina.

III. Organization and Records

1. Accession record kept up-to-date.
2. Books classified and marked by the Dewey Decimal classification system. If a list of the books, giving author, title, publisher, and leaving a one-inch margin on the right hand side of the page is sent to the School Library Adviser, State Department of Public Instruction, Raleigh, N. C., she will indicate the correct classification number and return the list to the school so that it can be used as a guide for the proper number to be put on the back of each book.
3. Simple shelf list on cards.
4. Card loan system with record of circulation kept.
5. Record of yearly additions, discards, total number of books, circulation statistics.
6. State library report blank filled out and sent in annually.

IV. Library Room, Furniture, and Equipment

1. A library room, large enough and equipped to seat an entire class group, is desirable. Help on plans for the furniture and equipment of such a room is available from the School Library Adviser, Department of Public Instruction, to any school superintendent.
2. Where a library room is not available, a book storage room may be useful.
3. Book shelving should be in every classroom.
Shelving should not be over 5 feet high.
Shelving should be placed so that every child can reach every shelf.
Shelving 8 inches deep cares for regular sized books.
Picture books usually require shelves 10-12 inches deep.
Spaces between shelves should be at least 10 inches in the clear.
4. A special cabinet should be provided for storage of teaching material and old books.

V. Lessons on the Use of Books and Libraries (See Chapter VII. North Carolina School Library Handbook.)

1. Care of Books.
2. Make-up and Printed Parts of Books.
3. Use of the Dictionary.
4. Use of the Encyclopedia.
5. Arrangement and Use of the Library.
6. Classification of the Books.
7. Use of the Card Catalog. (This is taught only if there is a card catalog.)
8. Simple Bibliography Making.
9. Note taking.
10. Special Reference Books—Atlas, Handbook of Games, Handbook of Science, etc.

VI. Librarian

It is desirable that there be at least one teacher in each school who has had some library training and who is placed in charge of the Elementary School Library.

VII. Professional Books

Ten or more professional books selected from those listed in the State Course of Study and from lists which may be supplied from time to time by the State Department of Public Instruction.

SUPPLEMENTARY READERS

Eighty copies for each grade selected from State adopted lists, see p. 58. and list printed in Elementary School Register.

Each grade in the elementary school must have an easy supplementary reading series—20 copies each for grades 1-7; include 20 copies of the primer in the same series for the first grade.

The remaining books for each grade (40 for first and 60 for grades 2-7) should provide a varied reading program for reading practice and source materials, including history, science, music, art, geography and travel, poetry

and literature, health and citizenship readers. A minimum of 5 copies of the text in any one field must be provided.

DICTIONARIES

- I. Three dozen children's dictionaries owned by the school, elementary or intermediate edition preferred. The list of dictionaries adopted by the State Board of Education is as follows:
 - Webster's Shorter School Dictionary. American. \$.88.
 - Webster's Elementary Dictionary for Boys and Girls. American. \$1.14.
 - Winston Simplified Dictionary. Winston.
 - Primary edition\$.75
 - Intermediate edition 1.00
 - Webster's School Dictionary. Acorn. \$.66.
 - The Thorndike-Century Junior Dictionary. Scott. \$1.14.
- II. One dictionary for the teacher's desk in each classroom. The following are approved:
 - Webster's Collegiate Dictionary. Merriam.
 - Webster's Students Dictionary. American.
 - The Winston Simplified Dictionary, Advanced edition. Winston.
 - Macmillan's Modern Dictionary. Macmillan.
- III. One unabridged dictionary for the school.
 - Webster's New International Dictionary. Second edition. Merriam.

MAPS AND GLOBES

To assist superintendents, principals and teachers in the selection of maps the Division of Instructional Service of the State Department of Public Instruction with the assistance of elementary school, high school and college teachers, has made a study of the materials available and recommends the use of maps listed herewith. It will be observed that maps, charts and globes are supplied by the following companies:

Denoyer-Geppert Company, 5235-5257 Ravenswood Ave., Chicago, Ill.
 A. J. Nystrom & Company, 3333 Elston Ave., Chicago, Ill.
 Rand McNally & Company, 111 Eighth Ave., New York, N. Y.
 Weber Costello Company, Chicago Heights, Ill.
 C. S. Hammond & Company, New York, N. Y.

Maps and globes which will satisfactorily meet the minimum requirements are listed below. It is recommended that all the maps be obtained mounted singly, either on spring roller or in folded form, except the blackboard outline maps, which can be satisfactorily used in the mounting with plain rollers top and bottom.

- A. One set of *Physical-Political Maps*, including maps of the United States, Europe, Asia, Africa, North America, South America, Australia, and the World:
 - Denoyer-Geppert—The New Geography Jr. Physical-Political Maps, "J-r" series, size 44" x 58", or the "J-rp" series, size 44" x 58".
 - Nystrom—The Atwood Series Regional-Political, average size 52" x 60", or the Parkins Physical Environment Maps, average size 65" x 58".
 - Rand McNally—The Ranally Physical-Political Series, size 40" x 56", or the Goode Physical Series, size 66" x 46".
 - Weber Costello—The Bacon Semi-Contour Political-Physical Combination Maps, average size 48" x 41"; The Reality Political-Physical World Map.
 - Hammond—New World Series.

- B. One set of *Blackboard Outline Maps* including the United States, Europe, South America and the World:

Denoyer-Geppert—The Cartocraft Two-Print, slated wall outline maps. Series CS, size 64" x 50", or Series CJ, size 44" x 50".

Nystrom—The Royal Series of Blackboard Maps, size 64" x 46", or Progressive Series, size 52" x 44".

Rand McNally—The Rand McNally Blackboard Outline Maps, size 46" x 66".

Weber Costello—The Standard Blackboard Outline Maps, size 50" x 60".

- C. *Political Maps* of the United States and North Carolina:

Denoyer-Geppert—The "J" series Political United States, size 44" x 58", and map of North Carolina SI32, size 52" x 26".

Nystrom—Whitbeck Finch Series Political United States, size 65" x 55", or American Geographers Series Political United States, size 52" x 60", and State map UI32, North Carolina, size 52" x 26".

Rand McNally—Goode Political Series Map of the United States, size 66" x 46", or the Ranally Political Series Map of the United States, size 40" x 56".

Weber Costello—The Vito-Graphic Political Map of the United States, size 48" x 38 $\frac{1}{4}$ ", or Bacon's Standard Political Map of the United States, size 48" x 41", and map of North Carolina, No. St.31, size 60" x 48".

- D. One 16" *Physical-Political Globe* with desk-stand or floor-stand base and movable meridian. The globes listed are with desk-stand:

Denoyer-Geppert—GI6-P3 Globe.

Nystrom—Parkins Physical-Political Globe GI63.

Rand McNally—Physical-Political Globe No. 3335.

Weber Costello—Globe No. 433-D.

Hammond—Globe No. 1610.

- E. *United States History*—A minimum of nine maps. The Tryon Maps are probably more suitable for the elementary school.

Denoyer-Geppert—The Hart-Bolton Basic American History Wall Maps, size 44" x 32". A suggested list includes A2, A4, A5, A7, A10, A12, A15, A20, A24.

Nystrom—The Sanford-Gordy American History Maps, size 50" x 38".

Suggested list: SG1, SG2, SG4, SG7, SG8, SG10, SG15, SG17, SG20.

Weber Costello—Tryon Illustrated American Maps, size 40" x 49".

This list includes T-1A, T-2A, T-3A, T-4A, T-5A, T-6A, T-7A, T-8A, T-9A.

Recommended But Not Required:

A. A slated globe.

B. Wall outline maps and other similar publications of the Friendship Press, 150 Fifth Avenue, New York City.

C. Desk outline maps for the pupils. These are obtainable from the companies listed above.

D. North Carolina Social Science Maps. A. R. Newsome, Editor. Denoyer-Geppert.

E. The Life and Latitude Chart for use with Reality World Map. Weber Costello.

CLASSROOM AND GENERAL EQUIPMENT

Classroom Equipment: Minimum Requirements

Furnishings

1. Recitation chairs (15 to 20) in each first grade classroom.

Also recommended for grades two and three. Movable furniture (individual tables and chairs suggested) is recommended for all

grades. These tables and chairs are recommended for all work in primary grades.

2. Teacher's desk and chair.
3. Bookcase or shelves suited to class needs.
4. Work tables or reading table.
5. Filing space for work materials of teacher and of pupils.
6. Provisions for care of lunches and wraps.
7. Adjustable window shades where needed.
8. One or more bulletin boards.

Art

1. Each pupil supplied with a copy of basal text in drawing or six copies for each grade owned by the school.
2. An easel at least 20" x 30".
3. Crayon—a continuous supply with at least one box per pupil.
Large primary crayons for first grade.
4. Cold water paints—one set of eight colors, half pint of each.
5. Art brushes—two dozen brushes $\frac{1}{2}$ " to $\frac{3}{4}$ " wide, for desk work, with a small collection of narrow widths.
6. Modeling clay—ten pounds.
7. Manila drawing paper—20 sheets, 12" x 18", per pupil. Can be cut to various sizes as needed.
8. Coarse manila paper for poster and frieze work—6 square yards; also bogus paper.

Music

Each pupil supplied with a copy of basal text in music, or two sets of 40 copies each owned by the school for use in the various grades.

Penmanship and Writing Paper

1. Each pupil supplied with a copy of basal text in penmanship.
2. Pencils for work of each pupil. Pencils with soft, large lead for grades one and two.
3. Writing pens and ink for all pupils in grades five, six, and seven.
Recommended also for grade four.
4. Penmanship practice paper—continuous supply suited to grade needs.
5. Composition paper—minimum of 40 sheets per pupil.
6. Unprinted newspaper—large sheets, a total of 12 square yards.

Additional material

1. One yardstick and twenty-four rulers.
2. Scissors—two dozen, blunt point.
3. Tools—1 small strong saw, 1 vise, 1 screw driver, 1 coping saw, 1 small, large-headed hammer, nails and varying size tacks.
4. Manila tag board—5 square yards for primary grades, 3 square yards for grammar grades.
5. Clock or clockface.

General Equipment: Minimum Requirements

1. Principal's office and equipment.
2. School records up-to-date and filing space for them.
3. Auditorium and equipment.

4. Storage space for general supplies.
 5. General bulletin board.
 6. Janitorial supplies and storage space.
 7. Duplicator, mimeograph, or hectograph for preparing classroom materials.
 8. Printing press.
 9. Paper cutter.
 10. Seventy art prints selected from State approved list in the Course in Art Appreciation. See p. 176.
 11. Phonograph and records selected from State suggested list in the Music Appreciation Courses, p. 151.
 12. Special reading material (that may be prepared by teachers or bought)
 - a. Teacher's manual for use with basal texts in each grade.
 - b. Complete set of Phonic Cards for the phonic facts to be taught.
 - c. Sets of phrase cards for basal primers and basal first readers.
 - d. Set of word cards for first basal primer and first basal reader.
- NOTE—Materials for basal readers may be secured from the publishers of the adopted texts.
13. Number cards and games for teaching number combinations and the four fundamental processes.
 14. First-Aid Kit.
 15. Emergency rest room or cot.

General Equipment Recommended But Not Required

1. Cafeteria or lunch room.
2. Scales for weighing pupils.
3. Rugs or other provisions for rest periods in primary grades.
4. Playground apparatus and equipment.
5. Running water and floor plug for electric attachment in each room.
6. Piano.
7. Radio.
8. Instruments for toy orchestra.
9. Lantern and lantern slides.
10. Moving picture machine and films.
11. At least one room which can be darkened so as to use lantern and moving picture machine.
12. United States flag, and flag pole on grounds.
13. North Carolina flag.
14. Variety of good pictures, panels, statuary, vases and other objects of art for each classroom.
15. Growing plants.
16. Aquarium or terrarium.
17. Variety, as to texture, color, and size, of drawing and construction paper.
18. Variety of coloring materials—wax and pressed crayons, water color, show card colors, oil colors, plasticine.
19. Weaving frame and weaving materials.
20. Soft wood, soap and other materials for carving, modeling and general construction work.
21. Standardized tests carefully selected for use with pupils.
22. Standard handwriting scale for each classroom.

Section V: The School Plant

In the planning, remodeling, enlarging or rehabilitation of elementary school plants, the following standards are suggested:

SITE

Size—School sites should be ample in size: (1) for the building and future extensions, (2) for the proper setting of the building and its removal from the noise and dust of the highway or street.

Playground—Sites should also be ample in size for elementary children, and for all other play and recreation for the children to be served. A minimum of ten acres is recommended for a standard elementary school.

Location—In locating school sites, avoid (1) proximity to railroads, gas plants, factories, and other sources of noise and odors, and (2) poorly drained sites—artificial drainage is expensive.

THE GENERAL PLAN

The chief considerations in determining the general plan are: (1) orientation, (2) natural light and ventilation, (3) flexibility to permit future additions, (4) aesthetic fitness, and (5) economy. It is also suggested: (a) that in addition to mere classroom space, provision be made for heating and ventilation, blackboards, bulletin boards, supply cabinets, book-cases, and means for the hanging of children's and teachers' clothing; and (b) that other desirable features, depending upon the character of the school, include such items as provision for room clock, temperature control, electric outlets for lighting, projection, and vacuum cleaning, interphone connections, radio connections, lavatory and drinking facilities, project lockers, and such other special features as the school organization may require.

CLASSROOMS

Dimensions: (1) The width of the classroom, unilaterally lighted, should be not more than twice its height, 21 feet to 22 feet, being the usual and desirable widths. (2) Under normal conditions the height of the classroom should be 12 feet. (3) The length of a classroom should be determined by the desired seating capacity of the room, but classrooms less than 30 feet in length can rarely be justified. (4) There should be provided in the front end of the classroom a minimum of six feet between the first row of seats and the front wall. (5) In the rear of the classroom there should be provided approximately 3 feet between the last row of seats and the rear wall.

Seating Capacity—The normal seating capacity of classrooms shall be determined by allowing 16 square feet of the total floor area for each pupil.

Aisles—For safety and convenience in passing up and down classrooms, aisles next to walls should be at least 30 inches wide, and intermediate aisles at least 18 inches wide.

Doors—(1) Doors to classrooms should be at least 3 feet by 7 feet by $1\frac{1}{4}$ inches. A clear wire-glass pane in the upper part of the door is a desirable feature. For natural light in the corridors, the remaining upper part of the door may be of translucent panelled glass. (2) For the purpose of cross ventilation transoms should be placed over all classroom doors.

Location of Windows—It is recommended: (1) that all classrooms be unilaterally lighted, (2) that windows be placed on the long axis of the room, (3) that east and west fenestration be preferred over north and south, (4) that the top of the upper sash of windows be within six inches or less of the ceiling, (5) that no window panes be placed so low that light enters the room below the plane of vision of pupils seated next to the windows, (6) that the window area be one-fifth of the floor area, (7) that for the purpose of cross ventilation high breeze windows be provided in the wall opposite the outside windows, (8) that where artificial illumination is required the lighting units, properly spaced, should be hung so as to insure at least 8 to 12 foot-candles at desks of pupils without objectionable glare.

Blackboards—(1) From 20 to 40 running feet of blackboard should be provided for each classroom; (2) blackboards need not be more than 42 inches in width, thirty-six inches being generally satisfactory; and (3) the height of the chalk trough above the floor should be for:

1st and 2nd grades, 24 to 28 inches; 5th and 6th grades, 28 to 32 inches;
3rd and 4th grades, 26 to 30 inches; 7th and 8th grades, 30 to 36 inches.

Color of Walls and Ceilings—(1) All walls should be of a color with a light reflecting factor of approximately 50%. Light buff or ivory tan colors are recommended. Wainscotings and dadoes may be darker colors. (2) In all cases, the ceiling should be ivory, white or light cream with a light reflecting factor of not less than 60%. (3) Avoid glossy finishes.

Window Shades—Translucent shades, the color of which harmonizes with the classroom colors, should be used and so installed that the entire window may when desired be unshaded, and that any portion of the window may be shaded without shading other portions.

Cloakrooms, Wardrobes and Lockers—It is recommended that each classroom provide suitable space for the children's outer garments in one of three ways: (1) Ventilated cloak rooms approximately 5 feet wide, with an outside window having a glass area of not less than one square foot to every 10 square feet of floor area; also with two hook strips placed respectively 3½ and 5 feet above floor, each to be equipped with a sufficient number of hooks staggered 18 inches apart on each strip. A pole equipped with hangers may be substituted for hook strips. Coat rooms as described above with a classroom wall in the form of a stationary screen are acceptable when the area behind the screen is properly ventilated. (2) Ventilated wardrobes easy of access and convenient for use, opening preferably into the classroom. (3) Ventilated lockers in corridors, providing ample space for outer garments and placed so as to be convenient for use. Separate space should be provided for teachers.

Shelving—Each room shall be supplied with adequate shelving for library books. See *Library* under *Requirements for Accredited Elementary Schools*, item IV, page 17. Each room shall have a cabinet or sufficient shelving to take care of instructional supplies.

CORRIDORS

(1) The minimum clear passageway of the main corridor or corridors of any school building containing four classrooms or more shall be 8½ feet.
(2) While the minimum clear passageway of secondary corridors varies with

the length of such corridors and the number of classroom doors leading to them, such secondary corridors shall be approximately 5 feet in width. (3) Corridors and passageways shall be well lighted. Outside windows are always desirable. Transoms and half glass doors are helpful. Artificial illumination to the amount of 3 foot-candles is recommended. (4) No projections beyond the face of the corridor walls shall be in excess of 8 inches. (5) No radiators, drinking fountains, wash-basins or other equipment shall be placed on corridor walls unless the latter be recessed to receive them.

TOILETS

Location, Size and Construction—(1) Toilet rooms should be provided on each floor for each sex. (2) The toilet rooms for the two sexes should be located in different ends of building where practicable. They should be easily accessible from playgrounds and from classrooms. Do not locate toilets in basements. (3) The minimum width should be 10 to 12 feet and the length sufficient to accommodate the number of fixtures needed. (4) The rooms should be so arranged that pupils have space to pass without crowding. Lavatories should be accessible and a mirror provided, but this should not be over the lavatories. (5) Toilets should be so located and screened that the interior is not visible from corridors. Stalls should be provided for toilets. Doors to these are desirable for girls, but not for boys. Toilet floors and walls should be finished in impervious materials permitting washing down and all internal corners should be coved. (6) Ample sunlight is the best disinfectant for toilet rooms. As many windows as possible placed at least 6 feet from the floor should be provided.

Plumbing—Water closet bowls, urinals and wash basins or lavatories should be of vitreous china. The water closet bowls should be of the extended—lip or elongated—rim type. The seats should be of impervious material with open fronts. The number of closets in elementary schools should be figured at one for each 15 to 20 girls and one for each 25 to 30 boys. The ratio of water closets to the number of pupils decreases as the size of the school increases. (2) For primary children the height of the toilet seat should not be over 10 inches; for grammar grade children 11 inches; for high school children 13 to 14 inches. The “standard” height of 16 inches for toilet seats is too high for 75 percent of the children. (3) Separate toilets, adjacent to the classrooms, are a desirable feature for primary units. (4) The toilet should be of a type that will wash down with each flushing. (5) There should be one urinal for each 20 boys in the smaller schools. The ratio decreases as the size of the school increases. (6) The urinal should be of a type that is easily flushed and that can be kept clean. (7) One lavatory should be provided for every 2 toilet fixtures. (8) Lavatories for elementary grades should not be over 25 inches in height. In high schools 27 to 30 inches is an acceptable height. (9) A soap dispenser should be provided in connection with the wash basin. Hose connections and slop sinks should be provided for the janitor’s use.

DRINKING FOUNTAINS

Type and Location—It is recommended: (1) that indoor drinking fountains be of the wall type mounted on the surface of the wall, or in recess

alcove not less than 2 feet 6 inches wide and not less than 6 feet high, so that drinking fountains do not project beyond the surface of the main wall, (2) that all drinking fountains be supplied with an automatic regulator, (3) that outside drinking fountains be of the frost proof type, (4) that all drinking fountains be of the angle stream type with the orifice above the rim of the bowl, (5) that a drinking fountain be installed in the primary classroom, and (6) that fountains be located in corridors and near playgrounds for the upper grades. *Do not place drinking fountains in toilet rooms.*

Size and Number—The height of drinking fountains should be: (1) for the first three grades not over 24 inches from floor, (2) for grades 4 to 7 not over 30 inches from floor, and (3) for grades 8 and up 30 to 36 inches from floor.

One fountain should be provided for every 25 to 40 persons to be served.

PRIMARY ROOMS

The general requirements outlined above apply to primary as well as grammar grade units. However, attention is directed to the following principles which should be incorporated into the planning of primary units:

Orientation—West orientation is preferable for the primary units. This makes it possible for west rooms to receive much healthful sunlight without any interference, since the children are usually ready to be dismissed before the sun comes into the room in the afternoon.

Size—The space allotted to the primary unit should be from 21 to 22 feet in width by approximately 45 feet in length. A desirable arrangement of this space is to have a recitation room 30 feet in length with an activity room 15 feet in length.

Equipment—Window seats, work tables, drinking fountains, lavatories and storage space should be provided in the activity room.

Blackboards—Blackboards for primary units should be 24 to 28 inches from the floor. The width of the board need not be over 36 inches. Twenty running feet will be ample for the primary grades. This should be on the wall opposite the windows. The teachers' blackboards should be in the center of the front wall, but need occupy only about one-third of the space. This will provide room on the front wall for bookcase and space for hanging desirable pictures.

Bulletin Boards—Bulletin boards, the same distance from the floor and the same width as the blackboards, should be provided. A section at least 10 feet in length is desirable. Tack strips, which are not to be confused with bulletin boards, should be placed above the blackboards and bulletin boards.

Project Lockers—Project lockers 12 inches by 15 inches in size with a depth of about 15 inches should be provided for each pupil in the primary room.

REQUIREMENTS FOR ACCREDITED HIGH SCHOOLS

A standard high school as defined in the State law is as follows:

"A school term of not less than 160 days; four years or grades beyond the seventh elementary grade; three teachers holding required certificates; not less than forty-five pupils in average daily attendance; a program of studies approved by the State Superintendent of Public Instruction; and such equipment as may be deemed necessary by the State Superintendent of Public Instruction to make the instruction beneficial to pupils: *Provided, however*, that in schools maintaining a nine months' term, meeting all over requirements and offering superior instruction, fewer than forty-five pupils in average daily attendance may be considered." (1923, c. 136, s. 8; 1927, c. 40, s. 1.)

The 1937 School Machinery Act gives the State School Commission authority to establish elementary and high schools as follows:

"School Organizations. The State School Commission, in making provision for the operation of the schools, shall classify each county as an administrative unit and shall, with the advice of the County Board of Education, make a careful study of the existing district organizations when deemed necessary for the economical administration and operation of the State school system and shall determine whether there shall be operated in such district an elementary or a union school. Provisions shall not be made for a high school with an average daily attendance of less than sixty pupils, nor an elementary school with an average daily attendance of less than twenty-five pupils, unless a careful survey by the State Superintendent of Public Instruction and the State School Commission reveals that geographic or other conditions make it impracticable to provide for them otherwise." (1937, c. 394, s. 5.)

SUMMARY

There are two groups of accredited high schools in North Carolina:

Group I—Class AA, Class A and Class B (Term 180 days).

Group II—Class A, and Class B (Term 160 days).

(Class B is the lowest standard or accredited school.)

The standards of these groups are set forth as follows:

Group I—Class AA.

1. A four-year course of study beyond the seventh grade.
2. Length of term—nine months, or 180 days, exclusive of holidays.
3. Number of teachers—twelve or more teachers holding proper certificates.
4. Length of recitation periods—at least forty minutes.
5. Sixteen standard units required for graduation.
6. Laboratory facilities for the teaching of Science, requirements met in full.
7. Library requirements met in full.
8. Required number of maps, charts, and other equipment.
9. Attendance—a number of pupils in average daily attendance sufficient to secure twelve teachers.

Group I—Class A.

1. Four-year course of study.
2. Length of term—nine months, or 180 days, exclusive of holidays.
3. Number of teachers—six whole time teachers holding proper certificates.
4. Length of recitation periods—at least forty minutes.
5. Sixteen units required for graduation.
6. Laboratory facilities for the teaching of Science.
7. Library requirements met in full.
8. Maps according to requirements.
9. Attendance—a number of pupils in average daily attendance sufficient to secure six teachers.

Group I—Class B.

1. Four-year course of study.
2. Length of term—nine months, or 180 days, exclusive of holidays.
3. Number of teachers—four whole-time teachers, one of whom may be a teacher of vocational subjects.
4. Length of recitation periods—at least forty minutes.
5. Sixteen units required for graduation.
6. Laboratory facilities for the teaching of Science.
7. Library requirements met in full.
8. Maps according to requirements.
9. Attendance—a number of pupils in average daily attendance sufficient to secure four teachers.

Group II—Class A.

1. Four-year course of study.
2. Length of term—eight months, or 160 days, exclusive of holidays.
3. Four whole-time teachers, one of whom may be a teacher of vocational subjects.
4. Length of recitation periods—at least forty-five minutes.
5. Sixteen units required for graduation.
6. Laboratory facilities for the teaching of Science.
7. Library requirements met in full.
8. Maps according to requirements.
9. Attendance—a number of pupils in average daily attendance sufficient to secure four teachers.

Group II—Class B.

1. Four-year course of study.
2. Length of term—eight months or 160 days, exclusive of holidays.
3. Three whole-time teachers, holding proper certificates.
4. Length of recitation periods—at least forty-five minutes.
5. Sixteen units required for graduation.
6. Laboratory facilities for the teaching of Science.
7. Library requirements met in full.
8. Maps according to requirements.
9. Attendance—a number of pupils in average daily attendance sufficient to secure three teachers.

DETAIL REQUIREMENTS

In the interpretation of the law quoted above, the following suggestions and requirements are made for the development of an accredited high school:

1. Teachers

Every teacher employed in a standard or accredited high school must hold a high school teacher's certificate issued by the Division of Professional Service. This requirement holds for all classes of schools, public and private, white and colored, urban and rural.

High school teachers' certificates issued as of July 1, 1931, and thereafter, represent graduation from standard four-year colleges. These certificates

are issued on the basis of transcripts of college records, which show the professional credit and specialized work required for each certificate. Each applicant should meet the requirements in two or more teaching fields. The subjects for which certification is granted will appear on the face of the certificate.

Certificates issued prior to July 1, 1931 were issued on a general rather than subject basis and may be renewed.

The requirements at present for the High School Principal's certificate are three years' successful experience on the High School Class A certificate and six semester hours credit in courses in Administration and Supervision.

For detailed information relative to certificates write the Division of Professional Service, State Department of Public Instruction, Raleigh, N. C.

2. Length of Term

The length of term in Group II, Class B School, which is the lowest class of accredited high schools, must be eight months or 160 days, exclusive of holidays.

3. Length of Recitation Periods

With an eight months' term, 160 days, recitation periods must be forty-five minutes in the clear in order that each course may be 120 clock hours, or a unit of work. In arranging a daily schedule provision should be made for at least five minutes between recitation periods to allow for time spent in changing classes. The actual time spent in instruction during each recitation period must be forty-five minutes.

In most schools there is a demand for the hour or sixty minute period. When the daily schedule is arranged on this basis there should be six such periods in the school day; there must be at least five.

If the school is organized on the hour basis Science courses may be given five periods per week. If a shorter period is used seven periods per week should be devoted to each Science.

The advantage of the longer period is in the opportunity which it gives for supervised study. If the hour period is properly used it should prove more satisfactory than a shorter period.

Some schools are interested in making experiments with a period longer than one hour. Whenever an experiment of this sort is carefully planned, permission may be obtained for increasing the length of the period.

4. Number of Units Required for Graduation

At least sixteen standard units are required for graduation. A unit is defined as follows: A unit is the credit allowed for the satisfactory completion of a course pursued for thirty-two weeks or more per year with five recitation periods per week, and forty-five minutes per period. If the term is thirty-six weeks, recitation periods may be forty minutes in length. A unit of work is 120 clock hours.

The requirements for graduation differ somewhat for the various curricula. A definite statement of graduation requirements will be found in the discussion of each curriculum in the section on Suggested Curricula, Organizations, and Schedules.

With some exception the following are the requirements for graduation:

<i>Subject</i>	<i>Units</i>
English	4
Mathematics	2
Social Studies	2
Science*	2
Foreign Language	2
Elective	4
Total.....	16

A course in General Business Training may be substituted for one of the units in Mathematics, and students may be exempted from the requirement of two units of foreign language in the following ways:

1. By offering four units of Agriculture.
2. By completing the two year course in Commercial Education in the tenth and eleventh grades.
- 3a. By offering two units of Home Economics plus three units of science—General Science, Biology, Chemistry, and Physics, making a total of five units.
- 3b. By offering three units of credit in Home Economics plus Biology and Chemistry, making a total of five units.
- 3c. By offering two units of Agriculture or Industrial Arts plus three units of science—General Science, Biology, Chemistry, Physics, making a total of five units.

5. Average Daily Attendance

There must be at least forty-five pupils in average attendance in the lowest accredited school. New schools which do not make a sufficient average daily attendance to secure three State allotted high school teachers will not be considered for accredited rating. The 1937 School Machinery Act makes an average daily attendance of 60 as the minimum for the establishment of a high school.

6. Course of Study

A four year course of study must be provided. This means ordinarily the eighth, ninth, tenth, and eleventh grades. In some schools there are twelve grades and in some instances the eighth grade is regarded as a part of the junior high school. There is nothing to prevent the organization of a high school on the junior-senior basis. When an effort is made to organize on this basis it is suggested that the seventh and eighth grades be organized as a junior high school and the ninth, tenth, and eleventh grades as the senior high school. In schools where there are twelve grades it will be more convenient to organize on what is known as the 6-3-3 plan, the six year elementary school, a three year junior high school, composed of grades seven, eight, and nine, and a senior high school composed of grades ten, eleven, and twelve. In small high schools with three or four teachers and an average daily attendance of forty-five to seventy-five pupils, it is not advisable to attempt to organize on the junior-senior basis. Every school should be organized as suggested in the section giving suggested curricula, p. 90.

*A unit of geography may be substituted for any science except biology.

7. Equipment

LIBRARY

I. Library Room

1. Size of classroom as minimum.
2. Floor space to seat 10% of student body at tables and chairs. A minimum of 36 seats should be provided.
3. Floor space of approximately 25 square feet per reader cares for tables, chairs, aisles, and furniture.
4. Room centrally located, well heated, well ventilated, well lighted.
5. Librarian's work room or conference room with running water (may be provided by cutting off one corner of the room with low shelving). This is needed for routine work, mending, magazine storage and the like. It should contain shelves and storage space.
6. Walls and ceiling should be light colored, preferably buff.
7. Woodwork should be light, preferably light oak.
8. Floor covering and/or chair slides should be provided.
9. Library open entire school day under supervision.

II. Furniture and Equipment—(Pictures and specifications will be sent upon request.)

1. Shelving built according to specifications, allowing shelf space for 5-10 volumes per pupil, estimating 8 books per linear foot.
 - a. Shelving should not be over 6 ft. 10 in. high.
 - b. Each shelf 36 in. long with solid upright between sections.
 - c. Shelves should be 8 in. in depth, $\frac{3}{4}$ in. thick.
 - d. Metal strips and brackets provide adjustable shelves.
 - e. When stationary shelving is built, 10 in. in the clear should be provided between shelves. One section should have 12-14 in. space between shelves for large volumes such as encyclopedias.
 - f. Projections on tops or sides should be avoided.
2. Tables—Standard size (3 ft. by 5 ft. to seat 6, or 3 ft. by 7 ft. to seat 8, 28 to 30 in. high). Tables should be strongly built without foot rests or drawers.
3. Chairs—Strongly built, standard height (18 in.), without arms.
4. Librarian's desk. A flat-top desk similar to that for a teacher is desirable in the small school. The top drawer should be deep enough to hold a 3 in. by 5 in. book card. In larger schools a regulation loan desk is desirable.
5. Pamphlet or vertical file to care for pamphlets, pictures, clippings, etc. (At least 4 drawers). Preferably legal size.
6. Catalog case (at least 4 drawers) to hold 3 in. by 5 in. cards. Each drawer should be fitted with a rod.
7. Bulletin board—Cork, masonite, or celotex is satisfactory. 24 in. by 36 in. is a convenient size.
8. Magazine and newspaper racks. (May be made as part of shelving.)
9. Dictionary stand of wood.
10. Typewriter (for larger schools).

III. Books

1. Basic collection of 300 titles selected from the State approved list and

including the distribution indicated below: Government documents, textbooks, and pamphlet type books are not included.

- a. Abridged or Unabridged Standard Catalog for High School Libraries 1
(Order from H. W. Wilson Company, 950 University Avenue, New York.)
 - b. Approved Encyclopedia (World Book, Americana, Britannica, 14th edition. Listed in order of preference)..... 20
 - c. Government, Civics, Economics 10
 - d. Language—Unabridged Dictionary and Language dictionary for each language taught..... 2
 - e. Science 25
 - f. Useful Arts 10
 - g. Fine Arts 10
 - h. Literature: (Essays, plays, history of literature, etc.) 25
 - i. Poetry 20
 - j. Geography and Travel 25
 - k. History and Biography 75
 - l. Standard Fiction 75
 - m. Atlas 1
2. For schools of more than 100 enrollment, the collection should contain a minimum of not fewer than 3 books per pupil selected from the Standard Catalog for High School Libraries. The distribution by subject should be approximately as follows:

<i>Dewey Decimal Nos.</i>	<i>Subject</i>	<i>Percentage</i>
000-099	General Reference	8%
100-199	Philosophy	1%
200-299	Religion and Myths	1%
300-399	Civics, Economics	5%
400-499	Languages	2%
500-599	Science	10%
600-699	Useful Arts	10%
700-799	Fine Arts	5%
800-899	Literature	15%
910-919	Geography and Travel	5%
920-929	Biography	8%
900-909; 930-999	History	10%
F and SC	Fiction and Story Collections	20%

3. Only books in good physical condition are acceptable. A well balanced collection should be maintained.

IV. Magazines and Newspapers

1. Minimum requirements in magazines selected from the following and including at least one from each group:
 - a. Current topic: *Current History, Literary Digest, Time, News Week, Congressional Digest.
 - b. Literary: Atlantic Monthly, Harper's Magazine, *Scribners, *Readers Digest.
 - c. Scientific: Aviation, Nature Magazine, *Popular Mechanics, Popular Science Monthly, Radio News, Scientific American.
 - d. General Content: American Boy, American Girl, American Magazine, *Boy's Life, Scholastic, Open Road for Boys, Saturday Evening Post.
 - e. Miscellaneous: Better Homes and Gardens, Good Housekeeping, Hygeia, Industrial Education Magazine, School Arts Magazine, Asia, *National Geographic.
2. Enrollment to 100, a minimum of 5 magazines.
3. Enrollment 100-300, a minimum of 10 magazines.
4. Enrollment 300-600, a minimum of 15 magazines.

5. Enrollment more than 600, a minimum of 20 magazines.
6. Minimum requirements in newspapers, at least one good daily State newspaper, Sunday edition of a large newspaper with world features is desirable.

V. Organization and Records.

1. Accession record kept up-to-date. This may be part of the shelf list in schools employing trained librarians.
2. Books classified and marked by the Dewey Decimal classification system.
3. Shelf list on cards.
4. Card loan system with record of circulation kept.
5. Record of yearly additions, discards, total number of books, circulation statistics.
6. Yearly inventory.
7. State report blank filled out and sent in.
8. Card catalog required in all schools employing librarian half time or more.

VI. Course of at Least Ten Lessons in Use of Books and Libraries.

If given consecutively these should count half month's grade. The State adopted English texts include such lessons. Suggested topics for lessons:

1. Organization and Regulations.
2. Make-up and Care of Books.
3. Classification and Arrangement.
4. Dictionary.
5. Encyclopedias.
6. Special Reference Books.
7. Card Catalog.
8. Vertical File and Magazines.
9. Note Taking and Bibliography Making.
10. Book Resources Outside the Library.

VII. Librarian

1. Librarian must hold a high school teachers' certificate and be paid on basis of certificate held.
2. Schools with 6-8 teachers. One teacher with minimum of 6 semester hours in Library Science assigned to library two consecutive periods daily.
3. Schools with 9-12 teachers. One teacher with minimum of 12 semester hours in Library Science assigned to library half of school day.
4. Schools with more than 12 teachers. One teacher with minimum of 24 or more semester hours in Library Science assigned to the library full time.

MAPS

The requirement for maps in the high school is met by securing two sets of history maps, one in World History and the other in American History. In union schools, the elementary department must be supplied with all maps required for accredited elementary schools. In schools where the high

school department is separate from elementary school, the high school must have in addition to the history maps the complete set of Physical-Political Maps required of elementary schools.

1. World History—A set of at least seven maps.

Denoyer-Geppert—The Breasted-Huth-Harding Wall Map Series, size 44" x 32". A suggested list includes B3, B9, B13, H4, H13, H16, H32.

Nystrom—European History Maps—The Webster-Knowlton-Hazen Maps, size 50" x 38". A suggested list includes AH4, AH9, AH12, MM2, MM10, MM14, MM23.

Rand McNally—Westermann European and World History Maps, size 66" x 46". A suggested list includes I, II, V, VII, IX, X, XII.

2. American History—At least nine maps.

Denoyer-Geppert—The Hart-Bolton Basic American History Wall Maps, size 44" x 32". A suggested list includes A2, A4, A5, A7, A10, A12, A15, A20, A24.

Nystrom—The Sanford-Gordy American History Maps, size 50" x 38". Suggested list includes SG1, SG2, SG4, SG8, SG10, SG15, SG17, SG20.

Recommended But Not Required:

Additional maps and charts are recommended for Civics, Economics and High School Geography. Material of this sort may be purchased from the Denoyer-Geppert Company in the Hart-Matteson Series and the Hart-Bolton Series, and from the Nystrom Company in the Hughes, Sanford-Gordy, Webster-Knowlton-Hazen, and Finch Series. For other recommended maps, see elementary requirements, p. 18.

SCIENCE LABORATORY

There must be set apart for laboratory work at least one room which should have the necessary furniture and supplies. Suggestions regarding furniture and minimum laboratory apparatus lists follow:

Tables. For teacher—One demonstration table, 60 in. long, 30 in. wide, 34 in. high; should have drawers, enameled sink, and removable balance rods.

For pupils—A sufficient number of tables with balance rods and stools or chairs to accommodate largest laboratory section. The most popular sizes for tables are: 4-pupil capacity—72 in. long, 42 in. wide, 30 to 32 in. high; 2-pupil capacity—60 in. long, 30 in. wide, 30 to 32 in. high.

Although it is not undesirable for these tables to have drawers it is not necessary, as apparatus can be stored more satisfactorily in a separate cabinet. Tables should be heavy and rigidly constructed, the top at least 1½ inches thick and well put together.

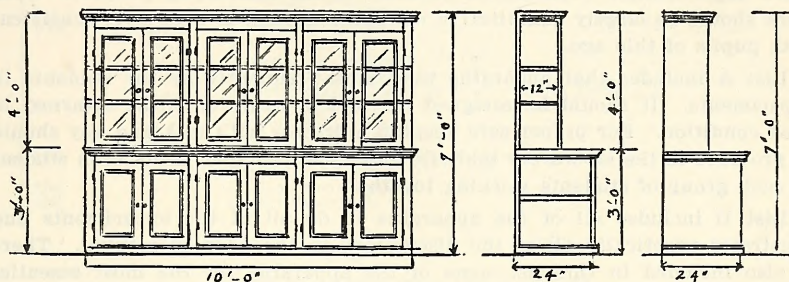
Chairs or Stools. There should be a number of chairs or stools sufficient to accommodate the largest laboratory section. In systems where there is congestion and one room has to be used for both recitation and laboratory purposes, chairs (without arms) should be supplied; otherwise, stools would be more satisfactory. Height of chairs, 18 inches; stools, 20 inches.

One Room Departments. In many schools it is often desirable to equip one room for science work to be used for both recitation and laboratory work. If the room is supplied with a storage cabinet for apparatus and equipment

and with an adequate number of tables and chairs, this makes a very satisfactory arrangement.

Storage Cabinet. There should be a storage cabinet in each school for laboratory apparatus. In most systems the one described below would be satisfactory. In the larger schools, however, a cabinet with additional sections should be provided.

PLAN FOR A CABINET FOR SCIENCE EQUIPMENT



Dimensions for cabinet:

- 10 ft. long.
- 7 ft. high.
- 36 in., height of lower section.
- 24 in., width (outside) lower section.
- 12 in., width (outside) upper section.
- 2 vertical partitions through middle of cabinet.
- 2 shelves across units of upper section.
- 1 shelf in left unit of lower section; none in the other two units.
- Wood doors on lower section; glass doors on upper sections.

Water. Running water should be supplied in all laboratories. If possible there should be spigots and sinks for teacher's demonstration table and for each pupil's table; however, one sink connecting every two tables for pupils can be made satisfactory.

Gas. Schools offering only General Science, Biology, and Physics have found that alcohol lamps supply a sufficient amount of heat. Where Chemistry is taught, gas should be provided.

Science Laboratory Apparatus. There appear below lists of laboratory apparatus for each science offered in an accredited high school. Every accredited high school must offer General Science, Biology, and either Physics or Chemistry. Many schools are prepared to offer both Physics and Chemistry.

In the purchase of laboratory apparatus for the several sciences the following *guiding principles* should be observed:

1. Apparatus which is equivalent to that listed will be accepted, including many items which may be made by the teacher of science or the pupils. The sole purpose of apparatus requirements is to provide such equipment as will make good teaching possible.

2. The lists of apparatus have been compiled for each science independently and, therefore, there are some duplications in items. In schools where one laboratory is sufficient for the teaching of all science classes these duplicates should be checked off.

3. Apparatus may be purchased from any reliable manufacturer or distributor. For this reason special trade names have been omitted whenever possible and superintendents and principals will be permitted to substitute satisfactory equipment which is equivalent to any item listed.

GENERAL SCIENCE

General Science should be made more than a nature study course. As much experimental work should be done by the student as possible. Such work should be largely quantitative with an accuracy as high as is consistent with pupils of this age.

List A includes that apparatus used most frequently by the students in experiments. It should be assigned out and be required to be returned in good condition. For proper safe keeping a drawer with lock and key should be provided in the laboratory table for the possession and use of each student or each group of students working together.

List B includes all of the apparatus to do all of the experiments and illustrates practically all of the discussions in the adopted manual. There is also included in this list some of the apparatus for the most essential demonstrations in the text.

List C has only the microscope and prepared microscopic slides recommended. It is not advisable to buy cheap microscopes—those without full range adjustments or other than standard optics.

List D is strictly demonstration equipment to be used by the teacher or demonstration group to illustrate the subject matter in the text.

List E contains additional desirable demonstration equipment and is not required, but further purchase should be made from selections from this list as rapidly as funds permit.

Since General Science contains some of the subject matter from each of the fields of Physics, Chemistry, and Biology, practically all the apparatus listed below will be found in the other laboratories. Obviously, if General Science is taught in the same laboratory as one or more of the advanced sciences, duplications may be eliminated. It is not desirable to attempt to carry apparatus to and from some other room to teach General Science.

Minimum satisfactory equipment will consist of:

List A. Student apparatus—As many sets of list A as there are groups of students working together.

List B. Apparatus and supplies—One set for the class.

LIST A. STUDENT APPARATUS

One set for each group of students working together.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
2		Beakers, Griffin form, 250 cc.	
3		Bottles, 8 oz., wide mouth.	\$ 0.40
1		Bunsen Burner, with gas and air adjustment	.18
		(If gas is not available use alcohol burner or other source of heat)	.50
1		Clamp, burette.	.30
1		Pinch Clamp, Mohr's.	.12
1	pkg.	Filter Paper, 11 cm.	.15
1		Flask, Florence, 250 cc.	.21
1		Funnel Tube, thistle top, 30 cm.	.15
1		Wire Gauze, asbestos center, 5" x 5"	.12
1		Rubber Stopper, 2-hole, to fit wide mouth bottle.	.05
3	ft.	Rubber Tubing, 3/16", hand made white.	.27
1		Support, with 2 rings.	.75
12		Test Tubes, 6" x 3/4"	.30
1	pkg.	Splints (500 per package)	.15
1		Pneumatic Trough, 4" x 7" x 10"	.15
1	vial	Litmus Paper, blue.	.75
1	vial	Litmus Paper, red.	.10
Total.			\$ 4.60

LIST B. APPARATUS AND SUPPLIES

One set for the class.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Meter Stick, maple, graduated in mm. and 1/8"	\$ 0.35
1	set	Capillary Tubes, mounted, set of 7	.95
1		Lens Clamp and Support	1.95
2		Single Pulleys, bakelite	.70
2		Double Pulleys, bakelite	.90
1		Inclined Plane, with graduated arc	7.85
1		Hall's Carriage	1.15
1		Lift Pump, glass model	1.75
1		Catch Bucket, 6.5 x 8 cm.	.60
1		Battery Jar, 6" x 8"	.80
1		Barometer Tube, with stopcock	2.50
1		Mercury Barometer	18.00
1		Thermometer, 3 scale	1.25
1		Air Pump, simple form	4.45
1		Pump Plate, 8 1/2" diameter	6.45
50		Blank Weather Maps	.65
1	sq. ft.	Rubber Dam, dental tissue.	.20
12		Magdeburg Hemisphere	6.00
1		Rubber Ballons, small, with valves.	.50
1		Air Thermometer Bulb, 5 cm. bulb.	.20
1		Dew Point Apparatus	1.00
1		Lodestone	.25
1		Bar Magnet, square 15 x 1 x 1 cm.	.30
1		Horse Shoe Magnet, 7.5 cm.	.15
1		Compass, 25 mm.	.25
1		Friction Rod, solid glass	.55
1		Vulcanite Rod, friction	.27
1		Flannel Pad, 20 x 20 cm.	.25
1		Leyden Jar, 1 pint	2.25
1		Students Battery, with 13 elements.	1.25
3		Lead Plate, 22 x 125 mm.	.07
1		Dry Cells, 1.5 volts.	1.05
1		Electrolysis Apparatus, Brownlee form	2.00
1		Coil For Induction	.90
1		St. Louis Motor.	3.50
1		A. C. Armature for St. Louis Motor.	1.00
1		Galvanoscope, simple form	1.95
2		Galvanometer, portable type	9.70
2		Bells, electric, 2 1/2" gong	1.00
1		Push Buttons, stamped metal	.30
1		Double Convex Lens, 5 cm. focus.	.75
1		Right Angle Prism, face 32 mm., length 25 mm.	.45
1		Plane Mirror, 10 x 10 cm.	.10
12		Concave and Convex Metal Mirror	.50
1		Candles, twelve.	.25
		Optical Bench, student form.	1.00

1	Balance, triple beam, bakelite pan, capacity 610 grams, no extra weights needed.....	12.00
1	Spring Balance, 8 oz. and 250 grams.....	1.25
12	Bottles, 8 oz., wide mouth.....	.70
24	Bottles, 8 oz., screw cap.....	2.40
1	Bunsen Burner, with gas and air adjustments.....	.50
	(If gas is not available use alcohol burner or other source of heat)	
1	Clamp, burette.....	.30
1	Condenser Clamp.....	.40
1	Right Angle Clamp Holder.....	.25
1	Pinch Clamp, Mohr's.....	.12
1	Condenser, Liebig, with rubber caps, 250 mm.....	.85
1 pkg.	Filter Paper, 11 cm.....	.15
6	Flasks, Florence, 250 cc.....	1.26
1	Funnel Tube, thistle top, 30 cm.....	.15
1	Wire Gauze, asbestos center, 5" x 5".....	.12
1 lb.	Glass Tubing, 1/4", lime glass.....	.55
1 box	Dennison Labels, #201.....	.10
1	Mortar and Pestle, porcelain, #10.....	.39
12	Rubber Stoppers, 2-hole, to fit wide mouth bottles.....	.55
2	Rubber Stoppers, 1-hole, to fit 250 cc. flask.....	.10
2	Rubber Stoppers, 2-hole, to fit 250 cc. flask.....	.10
12	Rubber Tubing, 3/16", hand made, white.....	1.08
1	Support with 2 Rings.....	.75
12	Test Tubes, 6" x 3/4".....	.30
1	Thermometer, -10° to 110° C.....	1.00
1	Thermometer, 10° to 220° F.....	1.00
1	Pneumatic Trough, 4" x 7" x 10".....	.75
2	Lamp Chimneys, student's.....	.50
1 pkg.	Splints (500 per package).....	.15
1 lb.	Copper Wire, bare, No. 22.....	.65
4 oz.	Iron Wire, No. 20.....	.10
1	Tripod Magnifier.....	.75
6	Petri Dishes, 100 x 15 mm.....	2.28
1 x 1 lb.	Acid, Hydrochloric, C. P.....	.60
1 x 1 lb.	Acid, Sulphuric, C. P.....	.60
1 x 1 lb.	Agar Agar, powder.....	2.30
1 x 1 lb.	Aluminum Potassium Sulphate, pure crystals.....	.20
1 x 1 lb.	Ammonium Hydroxide, pure.....	.35
1 x 2 oz.	Beef Extract.....	.55
1 x 12 oz.	Calcium Hypochlorite, technical.....	.25
1 x 1 lb.	Carbon Tetrachloride, pure.....	.35
1 x 1 lb.	Copper Sulphate, technical, crystals.....	.25
1 x 1 lb.	Ether, C. P.....	.61
1 x 1 lb.	Iron Filings, fine.....	.25
1 x 4 oz.	Manganese Dioxide, C. P.....	.25
1 x 1 oz.	Magnesium Ribbon.....	.45
1 x 1 lb.	Marble Chips.....	.20
1 x 1 lb.	Mercury.....	2.54
1 x 1 lb.	Potassium Chlorate, pure.....	.35
1 x 1 lb.	Sodium Bicarbonate, pure.....	.25
1 x 1 lb.	Sodium Hydroxide, technical.....	.25
1 x 1 oz.	Sodium Metallic, C. P.....	.29
1 x 4 oz.	Sodium Peroxide, C. P.....	.30
1 x 1 lb.	Zinc, Mossy, Technical.....	.30
Total.....		\$131.28

LIST C. MICROSCOPE AND PREPARED SLIDES

These may be borrowed from the Biology Department.

LIST D. DEMONSTRATION APPARATUS

(Recommended but not required.)

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Metric Chart, U. S. Bureau of Standards.....	\$ 2.20
1		Cartesian Diver, 4 cm. long.....	.25
1		Hydraulic Press, glass model.....	2.50
1		Force Pump, glass model.....	1.75
1		Hygrometer, wet and dry bulb, Mason's Form.....	5.00
1		Bell Jar, open top, 4 liter.....	3.75
1		Conductivity Apparatus, six rods.....	1.45
1		Steam Engine Model, locomotive type.....	6.70
1		Electromagnet, small form.....	1.25
1		Telephone Receiver, demonstration form.....	2.00
1		Telephone Transmitter, dissectable.....	2.00
1		Tuning Fork, 256 V. P. S.....	1.25

	Organ Pipe, all metal with sliding piston.....	6.00
1	Spiral Spring, 2 meters long.....	2.00
1	Sonometer, key tension type.....	8.85
1	Demonstration Lenses, set of six.....	2.25
1 set	Photometer Box, Bunsen form.....	2.50
1	Pin Hole Camera.....	2.95
1	Aspirator Bottle, $\frac{1}{2}$ gallon.....	1.10
1	Chart of the Atoms.....	5.00
1	Rubber Stopper, solid to fit Bell Jar.....	.10
1	First Aid Cabinet.....	6.50
1	Pocket Planetarium, Kennon's.....	7.50
1	Hall's Tellurian Globe.....	12.50
1 set	*Smallwood Botany Charts, set of 30.....	22.50
1 set	*Smallwood Zoology Charts, set of 30.....	22.50
1 set	Physiology Charts, Johnston, set on tripod.....	10.50
1	Bird Chart, twenty-six common birds.....	2.50
1	Bird Chart, twenty-six common birds.....	2.50
1	Bird Chart, twenty winter birds.....	2.50
1	Bird Chart, twenty-three migrants.....	2.50
1	Washington School Collection of rocks and minerals.....	5.50
1	Balanced Aquarium, 6 gallon capacity.....	9.50
1	Model of Human Eye.....	9.25
6	Agar Culture Tubes.....	1.80
	Total.....	\$178.80

*Other reliable charts may be substituted.

LIST E. ADDITIONAL RECOMMENDED APPARATUS (Not required but recommended to be added as soon as funds permit.)

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Water Wheel Model.....	\$ 9.75
1		Rain Gauge, U. S. Weather Bureau type.....	3.85
1		Gas Engine Model, 4 cycle.....	14.75
1		Induction Coil, demonstration form, spark 6 mm.....	8.00
1		Short Wave Demonstration Radio Apparatus, one tube.....	40.00
1		Model Human Ear.....	12.00
		Total.....	\$ 88.35

BIOLOGY

Good microscopes are essential for satisfactorily giving a good course in Biology. While only one is given in this list, it should be the ultimate aim of each school to have one good compound microscope for each group of students. A wide selection of prepared microscopic slides is a necessary accessory.

Charts are a very essential and helpful teaching aid. Adequate charts should be on hand covering botany, zoology and physiology. Models are very important and last many years if properly treated.

Growing plants and living animals should be in every biology laboratory. Those native to the region can be easily collected. Other specimens that can not be kept living may be secured in the preserved form. A very liberal supply is desirable and it should be increased yearly until an adequate museum is built up.

There are numerous government bulletins published relating to plant and animal life that will be helpful to teachers of these courses. A list of such publications may be secured by addressing your request to the Bureau of Biological Survey, United States Department of Agriculture, Washington, D. C.

The Forest Service of the United States Department of Agriculture also has a list of Bulletins relative to plants and trees. On request the Bureau

of Fisheries, of the Department of Commerce, Washington, D. C., will supply schools with a list of its publications relating to fish.

Dissection of the common zoological forms should be done by each student or group of students. These forms include starfish, crayfish, earth worms, frogs, perch, grasshopper, etc. They may be collected locally if desired and possible. However, considerable work is involved in collecting and unless past experience has proven that such specimens actually will be collected in sufficient quantities and in satisfactory quality, they should be purchased. On the basis of time and cost of making such collection trips it is cheaper to buy them unless the teacher regards his collecting as sufficient of a hobby to want to make such collections. In addition to the above common types a rather complete demonstration set should be provided for teachers use and demonstration.

The equipment is listed in five groups below.

List A. Student or individual equipment is that required for each student or each group of students working together.

List B. General Apparatus is sufficient for the entire class and includes extra items to take care of breakage and also teachers demonstration apparatus.

List C. Chemicals—sufficient for the entire class.

List D. Preserved material—sufficient for a class of 24, recommended but not required.

List E. Additional Recommended Apparatus is not required but further additions should be selected from this list as it also includes items to do some of the demonstrations in the adopted text.

LIST A. INDIVIDUAL APPARATUS

(One set for each student or each group of students working together.)

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Beaker with lip, 250 cc.....	\$ 0.20
2		Bottles, wide mouth, 8 oz.....	.12
1		Bunsen Burner, new form, with needle valve gas control.....	.50
		(If gas is not available use alcohol lamp or other source of heat)	
3 ft.		Rubber Tubing, $\frac{1}{4}$ " diameter.....	.30
1		Support, single stand with 3 rings.....	1.05
1		Test Tube Support, for 13 tubes.....	.50
1		Tripod Magnifier, double lens, wide field.....	.75
1		Dissecting Pan, with wax.....	.75
1		Dissecting Set, including scalpel, forceps, scissors, two dissecting needles, and 6" ruler in leatherette case.....	1.45
1		Insect Killing Bottle, cyanide prepared 8 oz.....	.40
Total.....			\$ 6.02

LIST B. GENERAL APPARATUS

Minimum—One set for the entire class.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Osmosis Apparatus.....	\$ 0.50
1		Battery Jar, 6" x 8".....	.80
1		Bell Jar, open top, 1 gallon.....	3.75
1 sq. ft.		Rubber Dam.....	.20
12		Rubber Balls, small with valve.....	.50

1	Mirror, 10 x 10 cm.....	10
1	Balance, triple beam trip, \$12.00 (Borrow from Physics or Chemistry department).....	
12	Beakers, 250 cc.....	2.50
1	Brush, test tube, double radial tip.....	.06
1	Clamp, Bunsen.....	.30
1	Clamp, Burette.....	.30
1	Clamp Holder.....	.25
1	Pinch Clamp, Mohr's.....	.12
6	Evaporating Dishes, #00A.....	1.20
3 pkgs	Filter Paper, 11 cm.....	.45
1	Funnel, 3", 60° angle.....	.28
1	Funnel, 4", 60° angle.....	.36
10	Thistle Tubes, 30 cm.....	1.50
1	Hot Water Funnel.....	5.50
1 lb.	Glass Tubing, 6 mm.....	.55
1	Graduate, 100 cc., graduated up and down.....	.55
1 box	Labels, No. 205.....	.10
12	Medicine Droppers, straight.....	.28
1	Rubber Stopper, 1-hole to fit bell jar.....	.10
12 ft	Rubber Tubing, $\frac{1}{4}$ ".....	1.20
12	Test Tubes, 6" x $\frac{3}{4}$ ".....	.30
12	Test Tubes, 150 x 18 mm.....	.60
1	Thermometer, double scale, 12".....	1.35
1	Y Tube, $\frac{1}{4}$ " glass.....	.10
12	Watch Glasses, Syracuse, with beveled writing surface.....	1.50
1 set	Physiology Charts, W. A. K. Johnston's charts on tripod.....	10.50
1 set	*Smallwood Botany Charts, 30 charts on tripod.....	22.50
1 set	*Smallwood Zoology Charts, 30 charts on tripod.....	22.50
1	Microscope, Bausch & Lomb or Spencer, 2 objectives, 1 eyepiece, without case.....	65.80
72	Microscopic Slides, 3" x 1".....	.40
1 oz.	Cover Glasses, round, 18 mm. diameter.....	1.50
1	Platinum Wire, in glass handle.....	.35
1	Aquarium and Living Material.....	9.50
100	Insect Pins, No. 2, 100 per package.....	.40
6	Riker Mounts, 6 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ ".....	2.10
1	Sterilizer, Arnold's steam, height 11 $\frac{1}{2}$ ", diameter 10 $\frac{1}{2}$ ".....	12.60
1 set	Botany Microscopic Slides, 25 to set.....	8.50
1 set	Physiology Microscopic Slides, 25 to set.....	8.50
1 set	Zoology Microscopic Slides, 25 to set.....	8.50
1	Slide, of 3 types of Bacteria #175.....	.50
12	Petri Dishes, 100 x 15 mm.....	3.72
1	Classroom Jar, life history of frog.....	5.00
12 vials	Litmus Paper, red.....	.60
12 vials	Litmus Paper, blue.....	
Total.....		\$209.27

*Other reliable charts may be substituted.

LIST C. CHEMICALS

(If Chemistry is taught in the school, most of the chemicals can be secured from the Chemistry Department.)

Minimum—One set for the entire class.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
4 oz.		Agar Agar, shreds.....	\$ 0.75
1 qt.		Alcohol, denatured.....	.45
1 lb.		Ammonium Hydroxide, C. P.....	.60
2 oz.		Beef Extract.....	.55
1 lb.		Boric Acid, crystals, pure.....	.25
4 oz.		Carbolic Acid, U. S. P.....	.20
1 lb.		Chloroform, pure.....	.60
1 x 10 grams		Eosin, Y.....	.75
1 lb.		Ether, pure.....	.40
$\frac{1}{2}$ gal.		Formaldehyde, pure.....	1.20
1 lb.		Glycerine, C. P.....	.75
1 lb.		Hydrochloric Acid, C. P.....	.60
1 oz.		Iodine, crystals, U. S. P.....	.45
1 lb.		Lime Water.....	.25
1 x 10 g.		Methyl Blue.....	.75
1 lb.		Nitric Acid, C. P.....	.70
4 oz.		Pancreatin, U. S. P.....	.90
4 oz.		Pepsin, U. S. P.....	.98
4 oz.		Peptone From Meat.....	.78
1 oz.		Phenolphthalein, pure.....	.20
1 lb.		Potassium Bichromate, C. P.....	.78

1 lb.	Potassium Cyanide, pure.....	1.28
4 oz.	Potassium Iodide, C. P.....	.86
1 lb.	Sodium Hydroxide, C. P., pellets.....	.70
1 lb.	Sulphuric Acid, C. P.....	.60
Total.....		\$ 16.28

LIST D. PRESERVED MATERIAL
(Recommended but not required)

Quantity Recommended	Quantity on Hand	Description	Approximate Price
12		Preserved Grasshoppers, Rhomalia.....	1.25
12		Preserved Honey Bees.....	\$.25
12		Preserved Larvae of Monarch Butterfly.....	1.00
12		Preserved Pupae of Monarch Butterfly.....	1.20
12		Preserved Adult of Monarch Butterfly.....	.75
12		Preserved Frogs, medium.....	1.50
12		Preserved Starfish, small.....	1.20
12		Preserved Clams, medium pegged.....	1.25
12		Preserved Crayfish, large.....	.95
12		Preserved Perch, medium.....	1.30
12		Living Amoeba, culture for 12.....	1.05
12		Living Paramecium, culture for 12.....	.75
12		Living Hydra, culture for 12.....	1.05
Total.....			\$ 13.50

LIST E. ADDITIONAL RECOMMENDED APPARATUS

Not required—selections to be made from this list as funds will permit.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Field Glasses, wide field, B. & L.....	\$ 17.50
1		Bird Chart, twenty-six common birds.....	2.50
1		Bird Chart, twenty-six common birds.....	2.50
1		Bird Chart, twenty winter birds.....	2.50
1		Bird Chart, twenty-three migrants.....	2.50
1		Microtome, hand.....	16.50
1		Insect Net, 18" deep.....	1.50
1		Mount of Protective Coloration of Insect, mourning cloak.....	2.50
1		Model of Amphioxus Development.....	54.00
1		Life History Mount of Monarch Butterfly.....	2.50
1		Spreading Board, adjustable form.....	1.75
1		Model of Dicotyledon Stem, shows cross and longitudinal sections with color differentiations.....	17.50
1		Model Crayfish Dissection, 42 labeled parts, 22" x 12".....	18.00
1		Model of Frog Dissection, 62 labeled parts, base 19" x 20".....	22.50
1		Human Eye Model.....	9.25
1		Human Ear Model.....	12.00
Total.....			\$185.50

CHEMISTRY

It is very essential in teaching chemistry to have laboratory work done by students individually or in groups. Each student or group of students should be assigned a set of the Student Apparatus and be held responsible for its care and return it in good condition. For this purpose a chemistry laboratory table with a drawer about 10 x 10 x 15 inches should be provided with lock and key.

Much valuable training is obtained by the student in Chemistry in laboratory technique. One of the most valuable features of such technique is cleanliness and orderliness.

In the laboratory manual are 60 experiments and the apparatus and materials listed below provide for all of these experiments as well as most of the demonstrations in the text.

A. STUDENT APPARATUS

One set for each group of students working together.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		File, triangular 4"	\$ 0.12
1		Apron, rubberized cloth, adjustable to height of wearer, large size 44" long, 35" wide	.90
1		Beaker, with lip, capacity 50 cc.	.17
1		Beaker, with lip, capacity 250 cc.	.20
1		Beaker, with lip, capacity 400 cc.	.26
1		Blow Pipe, brass, plain, 8"	.15
4		Bottles, wide mouth, 8 oz.	.24
5		Reagent Bottles, 4 oz., No. 2, No. 4, No. 5, No. 61, glass stoppered with name blown in glass.	2.40
1		Brush, test tube, bristle end.	.08
8		Bunsen Burners for natural and mixed gas up to 800 B. T. U.	4.00
1		Wing Top, brass.	.10
1		Clamp, Burette.	.30
1		Clamp, Stoddard's Test Tube.	.10
1		Crucible, porcelain, No. 0, 15 cc.	.17
1		Crucible Cover, porcelain No. 0, diameter 42 mm.	.07
1		Deflagrating Spoon, brass, $\frac{3}{4}$ " cup, 15" handle.	.10
16		Dishes, evaporating, porcelain, No. 00A, capacity 70 cc.	3.20
1	pkg.	Filter Paper, 100 sheets in package 11 cm. diameter.	.15
1		Flask, flat bottom, glass, 250 cc.	.21
1		Flask, distilling, glass, 250 cc.	.55
1		Funnel, glass, 125 mm. diameter.	.48
1		Funnel Tube, thistle top straight stem, 30 cm. long.	.15
1		Wire Gauze, asbestos center, 20 mesh, 5" x 5", asbestos will not peel off.	.12
1		Graduate, cylindrical, 0 at bottom and 100 cc. x 1 cc.	.50
1		Rubber Stopper, 1-hole to fit test tube.	.05
1		Rubber Stopper, 1-hole to fit combustion tube.	.05
1		Rubber Stopper, to fit wide mouth bottle, 2-hole.	.05
1		Rubber Stopper, 1-hole to fit 250 cc. flask.	.05
1	vial	Litmus Paper, blue 100 strips.	.10
1	vial	Litmus Paper, red.	.10
3	ft.	Rubber Tubing, red antimony, $\frac{1}{4}$ " diameter, 1/16" wall.	.50
1		Support, ring stand, with 3 rings.	1.05
1		Support, test tube, 6 tube.	.40
12		Test Tubes, 6" x $\frac{3}{4}$ ".	.30
1		Ignition Tube, Pyrex, 150 x 18 mm.	.13
1		Tongs, crucible, 9" long.	.20
1		Triangle, pipetstem, 2" long.	.12
1		Trough, pneumatic, iron, 4" x 7" x 10"	.75
1		Watch Glass, 2 $\frac{1}{2}$ ".	.05
Total			\$ 18.42

B. GENERAL APPARATUS

One set for the entire class.

This list contains pieces only occasionally used by students, pieces used by the teacher in demonstrations, and additional amounts of the more breakable student glassware.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Hydrometer, for light and heavy liquids, 30 cm. long.	\$ 1.50
1		Hydrometer, milk, Quevenne Scale.	.90
1		Hydrometer Jar, 30 cm. high, 5 cm. diameter, with lip.	.50
1		Babcock Milk Tester, 8 bottle size.	31.00
2		Battery Jars, 8" high, 6" diameter.	1.60
1		Barometer, mercurial, Metric and English scales with vernier.	18.00
1	pair	Bar Magnets, size 15 x 1.9 x 7 cm.	1.00
1		Electrolysis Apparatus, after Brownlee and Others.	2.00
1		Conductivity Tester, simplified form.	1.25
12		Candles, paraffin, twelves.	.25
1		Balance, triple beam, agate bearings, capacity 111 grams, sensibility .01 grams, no additional weights needed.	17.50
3		Beakers, with lip, capacity 100 cc.	.54
12		Beakers, with lip, capacity 250 cc.	2.40
12		Beakers, with lip, capacity 400 cc.	3.12
12		Charcoal Blocks, 4" x 1" x $\frac{3}{4}$ ".	.50
2		Burettes, Geissler, with glass stopcock, capacity 50 cc., graduated to 0.1 cc.	2.50

6	Calcium Chloride Tubes, 15 cm. long.....	.90
1	Chart of the Atoms, lithographed in six colors, showing Atomic properties including Atomic symbol, Atomic weight, Atomic number, size 42" x 64".....	5.00
2	Clamps, Burette.....	.60
1	Clamp, condenser, small.....	.40
1	Clamp Holder, right angle.....	.25
3	Clamps, screw compressor.....	.60
4	Combustion Boats, porcelain, 60 x 10 mm.....	1.00
4	Combustion Tubes, Pyrex, 30 x 1.5 cm.....	1.08
2	Condensers, straight jacket, Liebig form, 300 mm.....	1.80
1 set	Cork Bore, brass, set of 6.....	.80
6	Crucibles, porcelain, No. 0, 15 cc.....	1.02
6	Crucible Covers, porcelain, No. 0, diameter 42 mm.....	.42
1	Dish, crystallizing, glass, 70 x 50 mm.....	.27
16	Dishes, evaporating, porcelain No. 00A, capacity 70 cc.....	3.20
1	Filter Pump, high pressure, for water systems with a pressure from 30 lbs. per square inch and up.....	1.35
6	Flasks, flat bottom, 250 cc.....	1.26
6	Flasks, flat bottom, 500 cc.....	1.56
6	Flasks, Erlenmeyer, 250 cc.....	1.20
6	Flasks, Erlenmeyer, 500 cc.....	1.50
1	Flask, volumetric, 100 cc. capacity.....	.30
1	Gas Generator, Kipp's, 500 cc.....	9.00
24	Glass Plates, 4" x 4".....	.96
12	Glass Rods, stirring, 6" x 3/16".....	.40
2 lbs.	Glass Tubing, outside diameter, 3/16".....	1.10
1	Graduate, cylindrical, 500 cc., marked one way.....	1.00
2 boxes	Labels, Dennison's, No. 201.....	.20
12	Pipettes, with rubber bulbs (medicine droppers).....	.28
2	Pipettes, Mohr's, capacity 10 cc. x 0.1 cc.....	.70
2	Retorts, glass, tabulated, capacity 4 oz.....	1.80
24 ft.	Rubber Tubing, red, 1/4" diameter.....	2.40
3 ft.	Rubber Tubing, black, 3/8" diameter.....	.42
1	Sand Bath, iron, 5" diameter.....	.10
1	Sediment Tester for Milk.....	15.00
144	Test Tubes, 6" x 3/4".....	3.00
12	Test Tubes, 8" x 1".....	.65
12	Ignition Tubes, Pyrex, 150 x 18 mm.....	1.56
2	Thermometers, engraved scale, -10° to 110° C, length 12".....	2.00
1	Water Bath, copper, 5".....	1.80
1	First Aid Cabinet, No. 1, 7 1/2" x 9" x 2 1/2".....	6.50
4 sheets	Sand Paper, fine, 10" x 12".....	.20
1 pkg.	Wax Tapers.....	.25
1 spool	Copper Wire, 4 oz. spool, No. 28.....	.40
1 roll	Picture Wire, No. 1, 25 yard package.....	.18
12	Asbestos Sheets, 6" x 6".....	.30
1 sq. ft.	Copper Sheet, No. 24.....	.65
2	Platinum Wires, with glass handle.....	.70
1 x 4 oz	Absorbent Cotton.....	.25
1 vial	Tumeric Paper.....	.10
Total.....		\$160.87

C. CHEMICALS

One set for the entire class.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1 lb.	Acid, Acetic, 36% C. P.....	\$ 0.39
1 lb.	Acid, Acetic, C. P., Glacial.....	.60
1/4 lb.	Acid, Arsenous, C. P.....	.26
1/4 lb.	Acid, Benzoic, U. S. P.....	.31
1/4 lb.	Acid, Citric, C. P.....	.36
6 lbs.	Acid, Hydrochloric, C. P.....	1.60
6 lbs.	Acid, Hydrochloric, technical.....	1.20
1/4 lb.	Acid, Lactic, 85%, C. P.....	.46
7 lbs.	Acid, Nitric, C. P.....	2.25
1 lb.	Acid, Oxalic, C. P. crystals.....	.65
1/4 lb.	Acid, Phosphoric, Ortho, U. S. P., 85%.....	.30
1 oz.	Acid, Pyrogalllic, crystals, U. S. P.....	.27
9 lbs.	Acid, Sulphuric, C. P.....	2.20
9 lbs.	Acid, Sulphuric, technical.....	1.40
1/4 lb.	Acid, Tartaric, C. P.....	.33
1 qt.	Alcohol, Ethyl, denatured.....	.45
1 qt.	Alcohol, Methyl, Synthetic.....	.45
1/4 lb.	Aluminum Metal, granulated, 30 mesh.....	.35
1 lb.	Aluminum Acetate, pure.....	.96
1 lb.	Aluminum Potassium Sulphate, pure.....	.20
1 lb.	Aluminum Sulphate, ground, iron free, technical.....	.20

1 lb.	Ammonium Carbonate, lumps, pure	.40
1 lb.	Ammonium Chloride, C. P.	.49
4 lbs.	Ammonium Hydride, C. P.	1.50
1 oz.	Ammonium Molybdate, C. P.	.22
1 lb.	Ammonium Nitrate, C. P.	.65
1/4 lb.	Ammonium Oxalate, C. P.	.30
1 lb.	Ammonium Sulphide, light C. P.	.31
1 oz.	Aniline Color, brown, Bismarck	.30
1 oz.	Aniline Color, red, Congo	.30
1 oz.	Aniline Color, violet, Methyl	.35
1/4 lb.	Antimony Metal, powder	.25
1/4 lb.	Antimony Oxide (ous) tri, C. P.	.40
1/4 lb.	Antimony Potassium Tartrate, pure	.25
1 lb.	Barium Chloride, C. P. crystals	.60
1 lb.	Barium Dioxide, C. P.	.25
1 lb.	Barium Hydroxide, technical	.35
1 pt.	Benzole (Benzene) purified	.30
1 oz.	Bismuth, metal, C. P.	.30
1 oz.	Bismuth Nitrate, C. P., crystals	.36
1 oz.	Bromine, C. P.	.36
1 oz.	Cadmium Nitrate, C. P.	.26
1/4 lb.	Cadmium Sulphate, C. P., crystals	.92
1 lb.	Calcium Carbide	.30
5 lbs.	Calcium Carbonate (Marble chips)	.50
1 lb.	Calcium Chloride, Anhydrous, granulated, technical	.35
1 lb.	Calcium Chloride, C. P., crystals	.69
5 lbs.	Calcium Hydroxide, powder, U. S. P.	.60
1 lb.	Calcium Fluoride, technical, powder	.20
12 oz.	Calcium Hypochlorite (Bleaching powder)	.25
1 lb.	Calcium Oxide, technical, lump	.20
1 lb.	Calcium Sulphate, lumps (Gypsum)	.20
4 oz.	Camphor, refined	.35
1 lb.	Carbon Bisulphide, pure (can be shipped freight only)	.35
1 lb.	Charcoal, animal, granulated	.30
1 lb.	Charcoal, wood, lumps	.25
1 lb.	Charcoal, wood, powder	.25
1 lb.	Chlorine Water	.45
1/4 lb.	Chloroform, pure	.25
1/4 lb.	Chromium Sulphate, C. P.	.43
1 oz.	Cobalt, Nitrate C. P.	.29
1 lb.	Copper Metal, foil B. & S. No. 36	.70
1 lb.	Copper Metal, turnings, fine	.50
1 lb.	Copper Nitrate (ic) C. P.	.94
1 lb.	Copper Oxide (ic) C. P., black powder	1.72
1 lb.	Copper Oxide (ic) C. P., wire form	1.88
1 lb.	Copper Sulphate, powder, C. P., Anhydrous	.39
1/4 lb.	Copper Sulphate, powder, C. P., Anhydrous	.25
1 lb.	Copper Sulphate, crystals, technical	.20
1 lb.	Dextrose, pure	.40
1 lb.	Ether, Sulphuric, pure	.25
1/4 lb.	Fehling's Solution "A"	.30
1/4 lb.	Fehling's Solution "B"	.30
1/4 lb.	Gelatin	.55
1 lb.	Glycerine, pure	.45
1 oz.	Iodine, U. S. P., resublimed	.25
1 lb.	Iron Metal, filings, fine	.27
1 lb.	Iron Metal, powder	.23
1/4 lb.	Iron Ammonium Sulphate (ous) C. P.	.35
1 lb.	Iron Chlorine (ic) lumps, pure	.46
1/4 lb.	Iron Nitrate (ic) C. P., crystals	.20
1 lb.	Iron Sulphate (ous), crystals, technical	.23
1 lb.	Iron Sulphide (ic.) (Pyrites)	.20
1 lb.	Kaolin, powder (China Clay)	.38
1 lb.	Lead Metal, foil	.50
1/4 lb.	Lead Acetate, U. S. P.	.33
1/4 lb.	Lead Nitrate, technical, crystals	.35
1 lb.	Lead Oxide, Mono. (Litharge)	.35
1 lb.	Lead Oxide, Tetra, pure (red lead)	.35
1 oz.	Lithium Chloride, C. P.	.20
1 oz.	Litmus Cubes	.30
1/4 lb.	Logwood Extract	.45
1 oz.	Magnesium Metal, ribbon	.25
1 lb.	Magnesium Chloride, technical, crystals	.66
1 lb.	Magnesium Oxide, U. S. P.	.25
1 lb.	Magnesium Sulphate, crystals, pure	.25
1 lb.	Manganese Dioxide, technical, powder	.36
1/4 lb.	Manganese Sulphate, C. P.	2.40
1 lb.	Mercury Metal, U. S. P.	.52
1/4 lb.	Mercury Chloride (ic) U. S. P.	.46
1 oz.	Mercury Nitrate (ic) C. P.	1.26
1 lb.	Mercury Nitrate (ous) C. P.	.75
1/4 lb.	Mercury Oxide (ic) pure, red	.50
1 oz.	Methyl Orange (dry indicator)	.55
1/4 lb.	Nichel Nitrate, C. P., crystals	.55
1 pt.	Oil, cocoanut	.55

1 pt.	Oil, cottonseed.....	.45
1 lb.	Paraffin, medium.....	.20
1/4 lb.	Permutit (Zeolite).....	.35
1 lb.	Petrolatum, white.....	.40
1 oz.	Phenolphthalein, U. S. P.....	.20
1/4 lb.	Phosphorus, yellow, sticks.....	.50
1 oz.	Phosphorus, Amorphous, red.....	.30
1 lb.	Potassium Bichromate, technical, crystals.....	.35
1/4 lb.	Potassium Bitartrate, U. S. P.....	.20
1/4 lb.	Potassium Bromide, U. S. P.....	.30
1 lb.	Potassium Chloride, granulated, U. S. P.....	.35
1/4 lb.	Potassium Chloride, C. P., crystals.....	.23
1 lb.	Potassium Chromate, pure, crystals.....	.22
1/4 lb.	Potassium Cyanide, granulated, pure.....	.40
1 lb.	Potassium Ferricyanide, crystals, pure.....	.85
1/4 lb.	Potassium Ferrocyanide, crystals, pure.....	.25
1 lb.	Potassium Hydroxide, U. S. P., pellets.....	.80
1/4 lb.	Potassium Iodide, U. S. P.....	.65
1 lb.	Potassium Nitrate, C. P., crystals.....	.56
1/4 lb.	Potassium Permanganate, U. S. P.....	.25
1 lb.	Potassium Sulphate, pure.....	.35
1/4 lb.	Potassium Sulphocyanide, C. P.....	.53
1 bottle	Renner Tablets (100).....	.75
1 lb.	Rosin, powder.....	.35
1/4 lb.	Silver Nitrate, C. P.—U. S. P.....	2.28
1/4 lb.	Soap, castile, powder.....	.30
1/4 lb.	Sodium Metal.....	.35
1 lb.	Sodium Acetate, technical, crystals.....	.30
1 lb.	Sodium Bicarbonate, powder, U. S. P.....	.25
1 lb.	Sodium Borate, U. S. P., crystals.....	.20
1 lb.	Sodium Calcium Hydroxide (soda lime).....	.48
1 lb.	Sodium Carbonate, technical, crystals.....	.20
1 lb.	Sodium Carbonate, C. P. Anhydrous.....	.51
5 lbs.	Sodium Chloride, U. S. P.....	.50
1 lb.	Sodium Hydroxide, U. S. P., pellets.....	1.30
1 lb.	Sodium Nitrate, C. P., crystals.....	.49
1 lb.	Sodium Nitrate, granulated, pure.....	.35
1 lb.	Sodium Phosphate, Mono., C. P.....	.73
1 lb.	Sodium Phosphate, C. P., granulated, dibasic.....	.52
1 lb.	Sodium Potassium Tartrate (Rochelle Salt), pure.....	.40
1 lb.	Sodium Sulphate, technical, crystals.....	.20
1 lb.	Sodium Sulphide, technical, fused.....	.25
1/4 lb.	Sodium Sulphocyanide, C. P.....	.51
1 lb.	Starch, corn.....	.20
1 lb.	Starch, wheat.....	.35
1/4 lb.	Strontium Nitrate, pure.....	.20
1/4 lb.	Sucrose, C. P.....	.29
1 lb.	Sulphur, flowers, powder.....	.25
5 lbs.	Sulphur, roll, lump.....	.70
1 lb.	Thermit, black.....	.30
8 oz.	Thermit Igniting Mixture (8 oz. can).....	.85
1/4 lb.	Tin Metal, mossy, pure.....	.39
1/4 lb.	Tin Metal, pure, foil.....	.70
1 lb.	Tin Chloride (ic) C. P., crystals.....	.51
1 lb.	Zinc Metal, mossy.....	.30
1 lb.	Zinc Chloride, granulated, Technical.....	.35
1 lb.	Zinc Sulphate, crystals, Technical.....	.23
Total.....		\$ 79.19

D. ADDITIONAL RECOMMENDED APPARATUS

Not required but desirable to add as soon as funds permit.

Quantity Recommended on Hand	Quantity	Description	Approximate Price
1	Specific Gravity Bottle, ungraduated 50 cc.....	\$ 0.70
1	Laboratory Balance, Analytical, in mahogany case with leveling screws and outside rider control, with slate base, sensibility 0.1 milligram, capacity 200 grams.....	60.00
1 set	Weights, brass, analytical, accurately adjusted, in box with lid, 1 milligram to 100 grams, including 1 milligram (2) 2 milligrams, 5 milligrams, (2) 20 milligrams, 50 milligrams, 100 milligrams, (2) 200 milligrams, 500 milligrams, 1 gram (2) 2 grams, 5 grams, 10 grams, (2) 20 grams, 50 grams, and 100 grams.....	8.00
1	Blast Lamp, Gasoline, quart size, vertical flame (required where no gas is available).....	6.45
1	Electrochemical Series Chart.....	2.00
1	Chart of the Metals.....	2.75
1	Cylinder, graduated, capacity 500 cc.....	1.00

1	.....	Brownian Movement Apparatus, mounts on microscope stage, complete with smoke chamber, with glass windows and rubber bulb and connection.....	3.00
1	.....	Still, gas, $\frac{1}{2}$ gallon capacity per hour.....	25.00
1	.....	Thermometer, double scale, -10° to 110° C, $12''$	1.35
Total.....			\$110.25

PHYSICS

Student experiments are considered essential in the Physics class. Those experiments that require the more expensive equipment may be performed by the teacher or as group experiments.

The list of Student Experiment Apparatus below provides for 50 experiments from the adopted laboratory manual. Those selected require the least expensive equipment.

When more than one group of students perform the same experiment at the same time it is obvious that multiples of some of the items must be provided.

The maximum number of pupils in each group should not exceed four and the maximum number of experiments conducted in the laboratory at one time should not exceed four.

The Demonstration and General Stock list below includes the apparatus needed for the more important demonstrations in the text and also provides for some of the more expensive experiments.

The Additional Recommended Apparatus list below is not required but further additions should be selected from this list as it also includes items to do further demonstrations in the adopted text.

A. STUDENTS EXPERIMENT APPARATUS

One set for the entire class.

Quantity Recommended	Quantity On Hand	Description	Approximate Price
1	Caliper, vernier, Metric and English, reads to 10 cm. by 0.1 mm. and $4''$ by $1/128''$	\$ 1.45
1	Compass, pencil, 10 cm. long.....	.15
1	Tube Gauge, brass, graduated to 15 mm. by tenths.....	1.35
1	Meter Stick, graduated to both mm. and $\frac{1}{8}''$.....	.35
1	Protractor, brass, $4\frac{1}{2}''$ diameter.....	.14
1	Maple Rod, diameter 10 mm., length 105 cm.....	.15
1	Composition of Force Board, circular all metal, including 3 spring balances.....	3.50
1	Demonstration Balance, meter stick clamp, and V bearing.....	.65
1 pair	Scales, for use with demonstration balance.....	1.45
1	Wheel and Axle, bakelite, diameter of wheels in ratios of 1, 3, 5, and 7.....	2.20
2	Single Pulleys, 5 cm. diameter.....	.70
2	Double Pulleys, 5 cm. diameter.....	.90
1	Inclined Plane, with pulley.....	1.95
1	Hall's Carriage, frictionless cone bearings, length 17.5 cm.....	1.15
1	Weight Hanger, brass.....	.50
1	Metronome.....	5.95
1	(or Stop Watch, $1/5$ second divisions.....) (\$13.45)	
1	Graduated Depth Tube, aluminum, one end closed, 30.5 cm. long, 2.5 cm. in diameter.....	2.00
1	Hydrometer Jar, 30 cm. high, 5 cm. diameter, with lip.....	.60
1	Catch Bucket, polished aluminum, 6.5 x 8 cm., capacity 250 cc.....	.70
1	Overflow Can, nickel-plated brass, 12.5 cm. high, 7.5 cm. diameter.....	.35
1	Water-Proof Wood Cylinder, 8 cm. high, 4 cm. diameter.....	.35
1	Water-Proof Wood Block, 7 x 4.5 x 4.5 cm.....	.30
1	Water-Proof Wood Block, 7.5 x 7.5 x 3.8 cm.....	.30
1	Aluminum Cylinder, with hook, 7.5 cm. high, 2.3 cm. diameter.....	.50
1	Lead Sinkers, with hook.....	.25
1	Battery Jar, 7" high, 5" diameter.....	.65
1	Barometer, mercurial, Metric and English scales with vernier.....	18.00
1	Volume Coefficient Tube, with mercury index, 40 cm. long.....	.75
1	Steam Generator (Apparatus A) one-piece, no solder, no rubber tubing, standard steam boiler water gauge.....	3.75

1	Water Trap, glass, 10 cm. long.....	.40
1	Linear Expansion Apparatus, with steam jacket and lever arm pointer.....	4.95
1	Aluminum Rod, 60 cm. long.....	.25
1	Copper Rod, 60 cm. long.....	.30
1	Brass Rod, 60 cm. long.....	.25
1	Calorimeter, with cover and stirrer, 14 cm. high, 11 cm. diameter capacity 250 cc.....	2.50
1	Bar Magnet, rectangular, polished steel, 15 x 1.9 x 0.7 cm.....	.40
1	Magnet Board, for plotting lines of magnetic force, 19 x 21 cm.....	.95
1 set	Magnetic Screens, 6 in set, paramagnetic and diamagnetic, each piece 8 x 8 cm.....	.40
1	Horseshoe Magnet, 7.5 cm. long.....	.15
1	U-Magnet, length 14 cm.....	.65
1 pkg.	Darning Needles, package of 20, 7.5 cm. long.....	.10
1 pkg.	Knitting Needles, package of 12, 15 cm. long.....	.25
1	Shaker for Filings.....	.15
1 pkg.	Blue Print Paper, package of 24 sheets, 5" x 7".....	.30
1	Compass, agate bearings, 50 mm. diameter.....	1.20
6	Compasses, small size indicating compass, 10 m. diameter.....	.60
1	Demonstration Student's Battery, with tumbler, porcelain top, porous cup, and 13 elements.....	1.25
1	Tumbler, 75 to 80 mm. diameter at top.....	.10
2	Dry Cells (dry batteries), standard size, 1.5 volts, 25 amperes on short circuit.....	.70
1	Gravity Cell, closed circuit cell, gallon size.....	1.50
1	Ampere's Rule Apparatus.....	1.65
1	Primary and Secondary coil, mounted for both vertical and horizontal positions.....	4.50
1	Incandescent Lamp, carbon filament, 110 volts, 16 candle power, 50 watts.....	.30
1	Incandescent Lamp, Tungsten filament, 110 volts, 40 watt.....	.15
1	Incandescent Lamp, Tungsten filament, 110 volts, 100 watt.....	.25
1	St. Louis Motor, all metal base.....	3.50
1	Electromagnet Attachment, for St. Louis Motor, essential for complete dynamo demonstrations.....	1.00
1	Galvanoscope, compass block with three coils of 1, 10 and 40 turns.....	1.95
1	Portable Galvanometer, jeweled bearing, very sensitive, but made to stand thousands of over-impulses, eliminating necessity for shunts.....	9.70
1	Resistance Box, total resistance 999 ohms.....	15.00
1	Rheostat, fine adjustment, 50 ohms.....	6.00
1	Wheatstone Bridge, slide-wire form, 1-meter long.....	5.00
1 set	Resistance Coils, set of 8, for use with wheatstone bridge.....	4.95
1	Single-Contract Key, tandem, base 7.5 x 12 cm.....	1.00
1	Voltmeter, D. C., double scale, ranges of 7.5 and 150 volts.....	10.00
1	Ammeter, D. C., double scale, ranges of 1 and 10 amperes.....	11.00
1	Tuning Fork, E (320 vibrations), 17.5 cm. long, tone alloy.....	1.25
1	Tuning Fork, G (384 vibrations), 16.5 cm. long, tone alloy.....	1.25
1	Vibrograph.....	5.45
1	Tuning Fork.....	1.25
1	Glass Tube, resonance, 4 x 45 cm.....	.80
1	Lens, double convex, 38 mm. diameter, 10 cm. focus.....	.35
1	Lens, double convex, 50 mm. diameter, 13 cm. focus.....	.50
1	Index of Refraction Apparatus, with sighting scales.....	3.25
1	Mirror, plane, 4 x 15 cm.....	.10
1	Metal Support, with gas burner.....	1.00
1	Metal Support, with lamp socket.....	2.70
1	Photometer Box, Joly form.....	4.50
1 pair	Supports, metal, for student's optical bench.....	.30
1	Lens Support, for 5 cm. lenses, with support to fit meter stick.....	.12
1	Mirror or Lens Support, to fit meter stick.....	.15
1	Screen Support, to fit meter stick.....	.10
1	Screen with Aperture, 30 x 15 cm.....	1.25
1	Screen, white Bristol board.....	.10
1	Balance, Harvard Trip, agate bearings, beam weights 10 grams to 0.1 gram, sensibility 5 cg.....	9.00
1	Clamp Support, for Harvard Trip Balance.....	1.50
1	Spring Balance, double scale, capacity 8 oz. on $\frac{1}{2}$ oz. divisions and 250 grams in 10 gram divisions.....	1.25
1	Weights, brass in wood block, 1 gram to 100 grams, including 1 gram (2) 2 grams, 5 grams, 10 grams (2) 20 grams, 50 grams, 100 grams, (2) 200 grams, 500 grams, 1000 grams.....	7.00
1	Weight, avoirdupois, 1 lb.....	.40
1 set	Weights, white-plated steel, allotted, mounted on compact stand, 10 grams (5) 500 grams, including 10 grams, (2) 20 grams, 50 grams, (5) 100 grams, and 500 grams.....	2.75
1	Beaker, with lip, capacity 100 cc.....	.14
1	Burette, Geissler, capacity 100 cc., graduated to 1/5 cc.....	1.80
1	Bunsen Burner, new form, with needle valve gas control. (If no gas is available use alcohol lamp or other source of heat).....	.50
1	Wing Top, brass.....	.10
1	Clamp, burette.....	.30
1	Clamp, screw compressor.....	.20

1	Condenser, Liebig's, glass, 400 mm. long.....	.95
10	Corks, flat, quality XX, 1" diameter.....	.18
1	Flask, Erlenmeyer, 50 cc. capacity.....	.16
1	Flask, Erlenmeyer, filtering, with side neck, 1000 cc. capacity.....	.87
1	Flask, distilling, 250 cc. capacity.....	.40
1	Forceps, steel, 5" long.....	.10
1	Funnel, glass, 100 mm. diameter.....	.36
1	Funnel Tube, thistle top, straight stem, 30 cm. long.....	.15
1	Gauze, iron wire, 20 mesh, 5" x 5".....	.07
1 lb.	Glass Tubing, outside diameter $\frac{1}{4}$ ".....	.55
1	Graduate, cylindrical, graduated up and down, 250 cc. by 2 cc.....	.80
1	Ring, iron, 3" diameter.....	.20
1	Rubber Stopper, 1-hole, No. 7.....	.06
1	Rubber Stopper, 1-hole, to fit 250 cc. distilling flask.....	.05
1	Rubber Stopper, 1-hole, to fit large end of Condenser.....	.10
1	Rubber Stopper, 2-hole, to fit Steam Generator.....	.10
1	Rubber Stopper, 2-hole, to fit 50 cc. flask.....	.05
1	Rubber Stopper, 1-hole, to fit 1000 cc. flask.....	.10
3 ft.	Rubber Tubing, white, $\frac{1}{4}$ " diameter, $\frac{1}{16}$ " wall.....	.30
1	Support, iron, tripod base, legs 4", rod $5/16$ " x 18".....	.60
1	Support, ring stand, with 3 rings.....	1.05
2	Thermometers, engraved scale, 10° to 110° C, length 12".....	2.00
1	Thermometer, engraved double scale, -10° to 220° C and 30° to 400° F, length 14".....	1.90
1 lb.	Annunciator Wire, copper, D. C. C. No. 18.....	.65
1 x 4 oz.	German Silver Resistance Wire, No. 30, D. C. C. 4 oz. spool.....	2.00
1 sq. ft.	Zinc Sheet, $1/16$ " thick.....	.80
1	Pocket Magnifier, $\frac{3}{4}$ " diameter.....	.40
1	Acid Citric, C. P.....	.36
1 x 4 oz.	Camphor, refined, granulated (Gum Camphor).....	.23
1 x 1 oz.	Copper Sulphate, C. P., crystals (coarse).....	.57
1 x 1 lb.	Mercury Metal, U. S. P.....	2.54
1 x 1 lb.	Paraffin, solid.....	.20
1 x 4 oz.	Potassium Permanganate, C. P.....	.34
Total.....		\$213.09

B. DEMONSTRATION AND GENERAL STOCK LIST

One set for the entire class.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1	Caliper, micrometer, Metric, ratchet stop, range 0 to 25 mm. by 0.01 mm., in plush lined case.....	\$ 3.85
1	Capillary Tubes Apparatus, set of 4, 11 cm. long, mounted.....	1.50
1	Diffusion Apparatus, including porous cup and glass tube.....	.70
1	Hooke's Law Apparatus, mirror scale, spring, and weight holder.....	1.80
2	Triple Pulleys, each pulley 5 cm. diameter.....	1.30
1	Center of Gravity Apparatus, about 15 cm. across.....	.75
1	Induction Coil, demonstration form.....	8.00
1	Second-Law-of-Motion Apparatus, plunger and spring type.....	2.95
1	Rotator, hand form, driving ratio 8 to 1.....	9.00
1	Governor, Watt's form.....	7.50
1	Combined Siren and Color Disc, gives all tones of diatonic scale.....	2.75
1	Pressure Tubes Set, 4 tubes of different shapes.....	.70
1	Cartesian Diver.....	.25
1	Hydraulic Press, working model of glass.....	2.50
1	Lift Pump, working model of glass, 37 cm. long.....	1.75
1	Force Pump, working model of glass, 37 cm. long.....	1.75
1	Demonstration Hydrometer, wood, graduated to mm.....	.30
1	Hydrometer, for light liquids, 30 cm. long.....	.50
1	Hydrometer, for heavy liquids, 30 cm. long.....	.50
1	Specific Gravity Bottle, capacity 25 cc.....	.60
1 set	Specific Gravity Specimens, cylinders 5 cm. long of steel, brass, copper, and aluminum, set of 4.....	.50
1	Water-Proof Wood Block, 7 x 4.5 x 4.5 cm.....	.35
1	Lead Sinker, with hook.....	.25
1	Barometer Tube, with stopcock.....	2.50
1	*Air Pump, motor driven, with plate.....	47.50
1	Bell Jar, straight form, knob top, 2 gallons.....	5.00
1	Hand and Bladder Bell Jar, with open top.....	2.50
1 sq. ft.	Rubber Dam.....	.20
12	Rubber Ballons, with valves.....	.50
1	Ball and Ring, to show expansion due to heat.....	1.20
1	Unequal Expansion Bar, 30 cm. long.....	.55
1	Rain Gauge, U. S. Weather Bureau type.....	3.85
1	Dew Point Apparatus, polished nickel-plated cylinder and aspirator bulb.....	1.00
1	Radiometer, one set of vanes.....	2.00
1	Steam Engine Model, locomotive type, large size, complete model.....	6.70
1	Lodestone.....	.25

1 pair	Bar Magnets, in box with keeper, size 15 x 1.9 x 7 cm.	1.00
1	Breaking Magnet, 10 x 0.6 x 0.6 cm.	.25
1 pkg.	Small Iron Tacks, 1 oz. per package.	.15
1	Friction Rod, glass, solid, 30 x 1.3 cm.	.55
1	Friction Rod, wax, 25 x 1.5 cm.	.15
1	Friction Rod, vulcanite, 25 x 1.3 cm.	.27
1	Silk Pad, 30 x 30 cm.	.40
1	Flannel Pad, 20 x 20 cm.	.25
1	Cat Skin, half skin, about 20 x 20 cm.	.80
1 pair	Condenser, plates mounted on wooden blocks.	.40
1	Electrical Pendulum, double with ball type.	1.00
1	Electroscope, box form, with gold leaves.	4.95
1	Leyden Jar, size 15 x 7.5 cm., capacity 1 pint.	2.25
1	Proof Plane, nickel-plated brass disc, insulating handle 12.5 cm. long.	.25
1	Electrolysis Apparatus, after Brownlee and Others.	2.00
1	Telegraph Key.	2.50
1	Telegraph Sounder, 5 ohms resistance.	2.50
1	Telephone Receiver, demonstration form, completely dissectible, resistance 75 ohms.	2.00
1	Telephone Transmitter, commercial type.	2.00
1	Galvanoscope, compass block with three coils of 1, 10, and 40 turns.	1.95
2	Bells, electric, diameter of bell 2 1/2"	1.00
2	Push Buttons, stamped metal, bronze finish.	.30
1	Sonometer, key type, mounted resonance case.	8.85
1 set	Demonstration Lenses, 38 mm. diameter, set of 6.	2.25
1	Photometer, simple form, including stick supports, 4 candle holder, 1 candle holder, Bunsen screen and support.	1.40
1	Optical Disc, etched metal dial, complete with lenses.	22.45
1	Universal Source of Light, for use with optical disc.	15.00
1 pkg.	Corks, quality XX, assorted, 1 gross, Nos. 0 to 11, 3/8" to 1-1/16" in diameter.	.65
24	Watch Spring, for burning in oxygen.	.50
2 spools	Copper Magnet Wire, No. 22, D. C. C., 1 lb. spools.	2.40
1 spool	Copper Magnet Wire, No. 36, D. C. C., 4 oz. spool.	.75
2 x 4 oz.	German Silver Resistance Wire, No. 28, D. C. C., 4 oz. spools.	3.50
1 roll	Paino Wire, No. 26, 4 oz. roll.	.40
2	Carbon Rods, 12" x 1/4"	.22
3 ft.	Copper Rod, 1/2"	1.10
1 x 1 lb.	Acid Hydrochloric, concentrated, C. P.	.60
1 x 1 lb.	Acid Tartaric, U. S. P., crystals.	.50
1 x 1 lb.	Aluminium Potassium Sulphate, crystals, pure.	.20
1 x 1 lb.	Ammonium Hydroxide, concentrated, pure.	.35
1 x 1 lb.	Copper (ic), Sulphate, technical, crystals.	.25
1 x 5 lb.	Sodium Chloride, fine, white, U. S. P.	.50
1 x 1 lb.	Sucrose, U. S. P.	.20
1 x 5 lb.	Zinc Sulphate, pure, crystals.	.85
Total.		\$199.89

*While a motor driven pump is highly desirable, a hand-driven pump will be accepted.

C. ADDITIONAL APPARATUS

Recommended but not required.

Quantity Recommended	Quantity on Hand	Description	Approximate Price
1		Cohesion Figures Set, 4 wire frames with clay pipe for soap bubbles.	\$ 1.25
1		Osmotic Pressure Tube, University of Chicago form.	4.35
1		Inertia Hall, with hooks, 75 mm. diameter.	1.10
1		Crane Boom, 70 cm. long, range 15 kilos by 1/2 kilo, ball bearing.	7.95
1		Simple Pendulums, with stand, 3 pendulum bobs, and clamp.	3.95
1		Pressure Syringe, glass, 20 cm. long.	1.95
1		Pascal's Vase Apparatus, oil-silk diaphragm, no splashing, highest accuracy.	19.75
1		Tantalus Cup, 15 cm. high.	1.70
1		Boyle's Law Apparatus and Air Thermometer combined.	17.50
1		Aneroid Barometer, Metric and English Scales for altitudes up to 3,500 feet.	8.45
1		Maximum and Minimum Self-Registering Thermometer, 30 cm. long.	4.50
1		Hygrometer, or "Sling" psychrometer, quick reading.	6.00
1		Volume Coefficient Tube, with mercury index, 40 cm. long.	.75
1		Magdeburg, Hemisphere, mounted.	6.00
1		Bell-In-Vacuo, with bell jar and suspended bell.	3.95
1		Bacchus Illustration, two 4 oz. bottles connected by a bent glass tube.	.60
1		Water Hammer, exhausted tube, 25 cm. long.	1.50

	Leslie's Thermometer, differential.....	3.45
1	Leslie's Cube, 7.5 cm., sides made of different metals.....	3.20
1	Conductivity of Water Apparatus, funnel 12 cm. diameter.....	.95
1	Conductometer, complete with 25 x 7.5 x 5 cm. tank, rods, and rubber stopper.....	4.75
1	Heating Coil, attachment for calorimeter, coil is calibrated to 110 volts.....	3.00
1	Convection Apparatus, with glass side and chimneys.....	2.00
1	Convection of Liquids Apparatus.....	1.60
1	Gas Engine Model, 4 cycle, with miniature bulb to indicate spark, with popper valves and mechanism for advancing and retarding the spark.....	14.75
1	Lifting Magnet, commercial form of electromagnet.....	3.50
1	Dipping needle, 8 cm., mounted with graduated arc.....	2.70
1	Wimshurst Static Machine, two 12" glass plates, gives intense spark.....	29.85
1	Electrophorous, large size, disc 20 cm. diameter, hard rubber plate on stand, 30 x 30 cm.....	3.75
1	Faraday's Bag, mounted on insulating stand 15 cm. high.....	1.25
1	Induction Cylinder, fitted with 2 rods carrying pith balls.....	4.50
1	X-Ray Tube, 7 cm. bulb.....	12.00
1	Fluoroscope, with removable screen and viewing box.....	14.50
1 set	Geissler Tubes, brilliant varying fluorescences, 6 in set.....	5.00
1	Copper Plating Outfit, complete.....	1.75
1	Induction Coil, 12 mm. spark.....	12.00
1	Demonstration Transformer, ratio of primary to secondary voltage, 1 to 4.....	14.75
1	Temperature Coil, for determining the coefficient of copper, 3 x 6 cm.....	1.80
1 set	Chladni's Plates and Holder.....	3.00
1	Photometer, Rumford's, including shadow stick, meter sticks, screen pin support, and candle support.....	6.95
1	Anatomical Model of Human Eye.....	9.25
1	Metric Chart, mounted on plain rollers, 25" x 41".....	2.20
1	Gas Engine Model, four cycle engine.....	14.75
1	Weight of Air Cylinder, diameter 7 cm.....	4.45
1	Air Thermometer, simple form.....	4.15
1	Telegraph Pony Relay, 20 ohms resistance.....	4.50
1	Short Wave Radio Demonstration Apparatus.....	40.00
1	Water Wheel Model, illustrates over-shot, under-shot and breast types.....	9.75
	Total.....	\$331.30

HIGH SCHOOL RECORDS AND REPORTS

A reliable index of an efficient high school is a record system which is adequate, accurate, complete, and legible. Individual pupil records should be as complete as possible. A simple method of keeping pupil records is the use of an envelope or folder for each pupil in which is filed the register sheet and other data. The State Department of Public Instruction distributes through the office of the superintendent a permanent record card, which can be used for a summary of credits earned by each high school pupil. For a list of the reports made by the principal, see *Reports of Teachers and Administrators*. No high school is rated for a given year until the Principal's Annual Report is submitted.

Filing Cabinet. There should be provided in each high school a filing cabinet for the safe-keeping of records. It is an indispensable part of the equipment of every principal's office. A cabinet especially suited to the needs of all systems, except the larger ones, contains the following units:

Two 5x8 units—one each for high school and elementary school permanent record cards.

One 10x4½ unit—for folder papers, documents, envelopes, and duplicate Monthly, Annual, and Preliminary reports.

Two 4x6 units—one for census cards (active and reserve), the other for high school pupil registration and daily schedule cards.

One or two 9x12 units—for correspondence and folders for various school

subjects and activities such as the following: Achievement Tests, Agriculture, Arithmetic, Assembly, Athletics, Attendance, Basketball, Bills, Bulletin Board, Building Standards, Certificates of Teachers, Chemistry, College Entrance Requirements, Commencement, Committees of Faculty, Contracts of Teachers, County Superintendent, Daily Schedules, Debate, Declamations, Dramatics, Elementary School, English, Equipment, Extra-Curricular Activities, Failures, French, Grounds, Health, History, Intelligence Tests, Inventory, Janitor, Latin, Library, Magazines, Maps, Mathematics, Music, Parent-Teacher Associations, Pictures, Playground Apparatus, Publicity, Publishers, Receipts, Record Forms, Registration of Pupils, Science, Special Days' Observance, State Department, Supervision, Teachers' Credentials, Trucks.

8. Building

In order for a school to meet the requirements for accredited rating there must be an adequate, sanitary building. The minimum standard as to rooms is as follows:

A number of regulation-size classrooms sufficient to accommodate all classes without congestion, separate rooms sufficiently large for library, laboratory, principal's office, and an auditorium. In addition, there should be, if possible, separate rooms for vocational work and a teachers' rest room.

All buildings should be heated with steam and have running water. Above all else, rooms should be kept clean and in a sanitary condition. This is especially necessary with respect to toilets.

For specific building standards see Section V, p. 22 of the standards for accredited elementary schools. All accredited schools must meet the sanitary requirements prescribed by the State Department of Health.

REQUIREMENTS FOR MEMBERSHIP IN THE ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS OF THE SOUTHERN STATES

Schools which are interested in securing recognition by the Southern Association may secure copies of the regulations from the Chairman of the State Committee, J. Henry Highsmith, Raleigh, N. C. One regulation of the Association provides that schools accepted must be in the Group I schools accredited by the State. This rule limits the schools recognized by this regional accrediting agency to schools which have a term of nine months.

PART III

PRINCIPLES AND FACTORS RELATING TO INSTRUCTION, ORGANIZATION AND ADMINISTRATION

SUGGESTED SCHOOL CALENDAR OF EVENTS

I. Before School Opens

- A. Conference of Elementary and High School Principals with Superintendents and Members of the State Department of Public Instruction.
- B. Needed Information for Year's Program.
 - 1. Plans for teachers' meetings.
 - 2. List of essential materials, equipment and texts.
 - 3. Statistical records and reports for individual schools.
 - 4. Appropriate enrollment and teacher load.
 - 5. Condition and organization of library. (See Library Handbook.)
 - 6. Condition of school buildings and grounds.
 - 7. Provisions for carrying out health program.
- C. Instructions for Principals and Teachers.
 - 1. Information about register and other reports.
 - 2. Discussion of this Handbook.
 - 3. Discussion of Course of Study.
 - 4. Discussion of teacher's proposed program or schedule for the year.
 - 5. Discussion of the selection, purchase, and distribution of instructional supplies and equipment.
 - 6. Distribution and check of library books for classroom collections.
 - 7. Information regarding health examination and corrections.
 - 8. Provision for educational guidance.
 - 9. Information regarding State-wide programs.
 - 10. Special instructions to first grade teachers concerning the school beginner. (See *The Beginners' Day Program*.)
 - 11. Membership in educational organizations.
 - 12. Discussion of teacher placement and the school program as a whole.
- D. Planning for Conferences. (See *Conferences*.)

II. After School Opens

- A. September
 - School Organization and Improvement.
 - a. Percentage of increase in enrollment in each grade and actual number of school beginners.
 - b. Emphasis on attendance the first day of school and during the first month.
 - c. Actual pupil-load per teacher and adjustment of pupils in grades where needed.
 - d. Adaptation of school plant to needs of whole school.

- e. Check of health record cards and suggestions for corrections. (See p. 14.)
- f. Check for needed teaching materials and textbooks for pupils and teachers. Rental system considered.
- g. Plan for all programs which lead to State meetings held in the spring.
- h. Student clubs and organizations.
- i. Plan for measurement program for diagnostic purposes in connection with instruction.

B. October

- 1. School Organization and Improvement.
 - a. Check for proper adjustment and placement of pupils.
 - b. Check for unifying methods and materials from grade to grade.
 - c. Correlation of library materials with basal and supplementary texts.
 - d. Follow-up of health program and other State-wide programs.
 - e. Check of all elementary and high schools relative to requirements for accredited schools and for maintaining and improving present standards in accredited schools. File Preliminary Reports.
- 2. Meetings.
 - a. Principals' clubs.
 - b. First teachers' meeting.
 - c. Any regional conference.
 - d. District meetings, N. C. E. A.
 - e. Parent-Teacher Association.
- 3. Special School Programs.
 - a. Suggested radio programs.
 - b. Columbus-N. C. Day—Oct. 12.
 - c. National Picture Week.
 - d. Fire Prevention Week.

C. November

- 1. School Organization and Improvement.
 - a. Study of pupils' report cards to parents and pupil's progress records to be filed.
 - b. Emphasis on prevention and correction of learning difficulties.
 - c. Adaptation of Course of Study to needs of ability groups.
 - d. Check on professional library, including current educational publications.
 - e. Follow-up of health program and all State-wide programs.
- 2. Meetings.
 - a. Principals' clubs.
 - b. Second teachers' meeting.
 - c. District meetings, N. C. E. A.
 - d. Parent-Teacher Association.
- 3. Special School Programs.
 - a. Parents visiting week.
 - b. American Education Week.
 - c. National Book Week.
 - d. Thanksgiving.

D. December

- 1. School Organization and Improvement.
 - a. Emphasis on school and community programs.
 - b. Review and drill before vacation for Christmas.
 - c. Check for health corrections which can be made during holidays.
- 2. Meetings.
 - a. Principals' clubs.

- b. Parent-Teacher Association.
- c. Social school programs: Dramatics and Christmas celebration.

E. January

1. School Organization and Improvement.
 - a. Mid-term tests and re-adjustment of grade programs to meet pupil needs.
 - b. Attention to proper placement of pupils.
 - c. Check pupil progress for all State-wide programs.
 - d. Follow-up of health program.
2. Meetings.
 - a. Principals' clubs.
 - b. Third teachers' meeting.
 - c. Parent-Teacher Association.
3. Special School Programs.
 - a. Law and Order Day.
 - b. Lee-Jackson Day.
 - c. Community recreational meeting.

F. February

1. School Organization and Improvement.
 - a. Emphasis on improvement of materials and methods of instruction.
 - b. Plans for Beginner's Day Program.
 - c. Follow-up of health program and other State-wide programs.
2. Meetings.
 - a. Principals' clubs.
 - b. Fourth teachers' meeting.
 - c. Parent-Teacher Association.
3. Special School Program.
 - a. Parents' visiting week.
 - b. Suggested radio programs.
 - c. Thrift Week.
 - d. George Washington's Birthday.

G. March

1. School Organization and Improvement.
 - a. Promotion standards and progress reports.
 - b. Check of all elementary and high schools relative to requirements for accredited schools and for maintaining and improving present standards in accredited schools.
2. Meetings.
 - a. Principals' clubs.
 - b. Fifth teachers' meeting.
 - c. Parent-Teacher Association.
 - d. State Meeting N. C. E. A.
3. Special Programs.
 - a. Beginners' Day Program.
 - b. Arbor Day.
 - c. Community sing or music festivals.

H. April

1. School Organization and Improvement.
 - a. Emphasis on subject matter achievement. Measurement program for subject matter achievement.
 - b. Check all State-wide programs.

- c. Progress reports and promotions.
- d. Check for completion of yearly health program.
- 2. Meetings.
 - a. Principals' clubs.
 - b. Parent-Teacher Association.
 - c. Local school committee.
- 3. Special School Programs.
 - a. Beginners' Day Program.
 - b. Play day for school and community.
 - c. Music festival for elementary grades.
 - d. State music contests for high schools.
 - e. Parents' visiting week.
 - f. Local commencements—new type programs.

I. May

- 1. School Organization and Improvement.
 - a. Check on pupil progress and achievement in all grades. Promotions.
 - b. Compilation and filing of pupil records and reports.
 - c. Preparation of all county and State reports.
 - d. Tentative plans for professional program for summer school study and for next year.
- 2. Meetings: Final Conference of Superintendent and Principals.
- 3. Special School Programs.
 - a. Education Day.
 - b. National Music Week.
 - c. Local commencements—new type programs.

III. After School Closes

- A. Checking and Providing for Needs.
 - 1. Library materials.
 - 2. Instructional supplies and equipment.
- B. Compiling and Filing of General Reports and Records for County and State.

EQUIPMENT ESSENTIAL TO GOOD WORK

Classrooms.

- 1. Single tables and chairs of approved and standard type for grades one and two. (Sizes to suit the needs of good posture for every child.)
- 2. Single tables and chairs or single and movable desks of approved and standard type for grades three through seven. (Sizes to suit the needs of good posture for every child.)

NOTE: If tables and chairs are used, the chairs should be of the height suitable to height of tables to be used. Great care should be taken in the selection of the seating equipment and needed adjustments made in order that pupils may have good sitting and work postures.

- 3. Tables of rectangular top surface of approximately 3 x 6 feet in width and length and the proper height for the grade to be used for collections of instructional materials of various types and for work by groups of pupils.

4. Small tables or shelves for science equipment, such as aquariums, plant gardens, and for other equipment in frequent use.
5. Bulletin boards and blackboards of approximately equal dimensions located on the right-hand inside wall of the classroom. A small bulletin board for announcements and a small blackboard for teaching purposes should have wall space in front of the room.
6. Book shelves, cabinets for collections, chest or drawer space for instructional materials, and lockers for pupils' personal property, such as unfinished assignments and materials used in the activities required.
7. Space suitable for the proper exhibit of wall pictures, maps, charts, etc.
8. Teacher's desk and chair, file cabinet for records, and locker for materials. Chairs for visitors.
9. Cloak rooms or space in rear of room for the proper care of hats and coats, or lockers in halls.
10. Shelves in upper wall of cloak rooms for storing materials, tools, and equipment.
11. Clock, thermometer, and electric connections for radio and motion pictures.
12. Waste basket, erasers, sponge, and clothes brush for special clean-up periods.
13. Complete set of basal texts for the grade, including manuals and teacher's guides.
14. Basal texts, supplementary texts, and specific reference material for use by pupils.

Rooms for cooperative work.

In each school unit there should be a room or rooms, according to the size and needs of the unit, to be used by groups of students engaged in general coöperative activities. A room for this purpose should be equipped as follows:

1. Suitable work tables and chairs.
2. Tools necessary for the activities planned. Work benches for heavy work.
3. Scales and measures. Red Cross Health Kit.
4. Printing outfit and suitable paper for printing activities.
5. Art materials and equipment for construction work of types called for in the course of study—easel, rulers, scissors, paper, crayons, paints, paste, glue, clay, raffia, erasers, linoleum blocks and tools, weaving yarns and frames, ink, stationery, soap for carving, bookmaking materials.
6. Lavatory, soap, towels, and mirror.
7. A small serving kit and a small cooking unit. (Electric floor or wall plug should be provided.)
8. Selection of educative games for social hour.
9. Hectograph or equivalent.
10. Maps, globe, and charts suitable for the grades using the general work room.
11. Aquarium and other equipment for the study of water, insect and plant life.
12. A standard phonograph and a selection of records.

Assembly room.

1. Seats of graduated sizes suitable for pupils at elementary school levels—primary, intermediate, upper elementary.
2. Stage or platform on level of eye of audience seated.
3. Radio, film projector equipment, library of films, piano, piano music, and song books suitable for assemblies.

Gymnasium and recreation hall.

1. Equipment for indoor games for pupils at primary, intermediate, and upper elementary grade level.

2. Seats for visitors.
3. Lockers for participants in games and demonstrations.

Playgrounds.

Equipment for outdoor games and demonstrations suited to the needs of pupils of various ages and sizes in the elementary school.

MATERIALS OF INSTRUCTION

STATE ADOPTED SUPPLEMENTARY READERS

Arranged by Grades

First Grade

**Pre-Primers*

1. Buckley and others. **Away We Go.** (The Road to Safety Series) c1938. American.
2. Frasier and Dolman. **We See.** (The Scientific Living Series) c1937. Singer.
3. Storm. **Nip and Tuck.** (Guidance in Reading Series) c1936. Lyons.
4. O'Donnell and Carey. **Rides and Slides.** (Alice and Jerry Books) c1936. Row.
5. O'Donnell and Carey. **Here and There.** (Alice and Jerry Books) c1936. Row.

Primers

1. Social Studies Type Primers.

English and Alexander. **Jo-Boy, a Primer.** (Happy Hour Readers Series) c1935. Johnson.

Title on end of book reads: Primer. Happy Hour Readers.

Baker and others. **Friends for Every Day.** Primer. (The Curriculum Readers Series) c1934. Bobbs.

Title on end of book reads: Curriculum Readers Primer.

Leavevell and others. **Ben and Alice.** Primer. (Friendly Hour Series) c1935. American.

Title on end of book reads: Primer. The Friendly Hour.

Tippett. **Henry and the Garden.** c1935; and **Stories about Henry.** c1936. World.

Title on end of book reads: The Henry Stories.

Hanna and others. **Peter's Family.** (Everyday-Life Stories. Curriculum Foundation Series) c1935. Scott.

Title on end of book reads: A Social Studies Primer.
- *Social Studies Type Primers.

Smith. **At Home and Away.** Silver.

Dopp and Pitts. **Little Friends and Little Friends at School.** Rand.

O'Donnell and Cary. **Day In and Day Out.** Row.

Gareissen. **Our Pets.** Newson.
2. Literary Type Primer.

Buckingham. **Play Days, a Primer.** (Children's Bookshelf Series) c1934. Ginn.

Title on end of book reads: Play Days.

- *3. Natural Science Type Primer.
Fraser and Dolman. **Sunshine and Rain.** (The Scientific Living Series) c1937. Singer.
Title on end of book reads: Sunshine and Rain.
- *4. Health and Safety Type Primer.
Buckley and others. **Happy Times.** (The Road to Safety Series) c1938. American.
Title on end of book reads: B. The Road to Safety.
- *5. Study Type Primer.
Prout and Baumeister. **Names and Games.** (The Prout Readers) c1936. University Pub. Co.
Title on end of book reads: Names and Games.

First Readers

1. Social Studies Type First Readers.
English and Alexander. **Good Friends, a First Reader.** (Happy Hour Readers Series) c1935. Johnson.
Title on end of book reads: First Reader. Happy Hour Readers.
Leavell and others. **Playmates. Book I.** (The Friendly Hour Series) c1935. American.
Title on end of book reads: Book One. The Friendly Hour.
- *Social Studies Type First Readers.
Smith. **In City and Country.** Silver.
Beaty. **Story Pictures of Farm Animals.** Beckley-Cardy.
2. Health Type First Reader.
Charters and others. **From Morning Till Night.** (Health and Growth Series) c1936. Macmillan.
Title on end of book reads: From Morning Till Night.
- *Buckley and others. **In Storm and Sunshine.** (The Road to Safety Series) c1938. American.
Title on end of book reads: C. The Road to Safety.
3. Natural Science Type Reader.
Beauchamp and others. **Science Stories, Book One.** (Curriculum Foundation Series) c1933. Scott.
Title on end of book reads: Book One. Science Stories.
4. Number Stories Type Reader.
Studebaker and others. **Number Stories. Book One.** (Curriculum Foundation Series) c1932. Scott.
Title on end of book reads: Book One. Number Stories.
5. Literary Type Reader.
Buckingham. **Playing Together.** (The Children's Bookshelf Series) c1934. Ginn.
Title on end of book reads: Playing Together.
- *Huber and others. **I Know a Story.** (The Wonder-Story Books) c1938. Row.
Title on end of book reads: I Know a Story.
- *6. Study Type Reader.
Prout and Baumeister. **Pets and Toys.** (The Prout Readers) c1936. University Pub. Co.
Title on end of book reads: Pets and Toys.

*7. Additional Reader for Negro Schools.

Tippett. **The Picnic.** Grosset.**Second Grade**

1. Social Studies Type Readers.

Smith. **Round about You. II.** (Unit Activity Reading Series) c1935. Silver.

Title on end of book reads: II. Round about You.

English and Alexander. **Wheels and Wings, a Second Reader.** (Happy Hour Readers Series) c1935. Johnson.

Title on end of book reads: Second Reader. Happy Hour Readers.

Hanna and others. **David's Friends at School.** (Everyday Life Stories. Curriculum Foundation Series) c1936. Scott.

Title on end of book reads: Book One. Social Studies.

*Hanna and others. **Susan's Neighbors at Work.** (Everyday Life Stories. Curriculum Foundation Series) c1937. Scott.

Title on end of book reads: Book Two. Social Studies.

Dopp and others. **Outdoors and In. II.** (Happy Road to Reading Series) c1935. Rand.

Title on end of book reads: Outdoors and In. Second Reader.

*Beaty. **Story Pictures of Our Neighbors.** (The Primary Social Studies Series) c1938. Beckley.

Title on end of book reads: Story Pictures of Our Neighbors.

2. Health and Safety Type Readers.

Charters and others. **Happy Days.** (Health and Growth Series) c1936. Macmillan.

Title on end of book reads: Happy Days.

*Buckley and others. **In Town and Country.** (The Road to Safety Series) c1938. American.

Title on end of book reads: D. The Road to Safety.

3. Natural Science Type Reader.

Beauchamp and others. **Science Stories. Book Two.** (Curriculum Foundation Series) c1935. Scott.

Title on end of book reads: Book Two. Science Stories.

4. Number Stories Type Reader.

Studebaker and others. **Number Stories. Book Two.** (Curriculum Foundation Series) c1933. Scott.

Title on end of book reads: Book Two. Number Stories.

5. Art Type Reader.

Whitford and others. **Art Stories. Book One.** (Curriculum Foundation Series) c1933. Scott.

Title on end of book reads: Book One. Art Stories.

6. Literary Type Reader.

Buckingham. **Munching Peter and Other Stories.** (The Children's Bookshelf Series) c1934. Ginn.

Titles on end of book reads: Munching Peter and Other Stories.

*Huber and others. **It Happened One Day.** (The Wonder-Story books) c1938. Row.

Title on end of book reads: It Happened One Day.

7. Music Type Reader.
Kinscella. **Storyland**. Stories in Music Appreciation, Book One. (Kinscella Readers Series) c1930. University Pub. Co.
Title on end of book reads: Kinscella Readers, Book One.
- *8. Study Type Reader.
Prout and Baumeister. **The Duck and the Fox**. (The Prout Readers) c1936. University Pub. Co.
Title on end of book reads: The Duck and the Fox.

Third Grade

1. Social Studies Type Readers.
Smith. **Near and Far**. III. (Unit Activity Reading Series) c1935. Silver.
Title on end of book reads: III. Near and Far.
English and Alexander. **Wide Windows**, a Third Reader. (Happy Hour Readers Series) c1935. Johnson.
Title on end of book reads: Third Reader. Happy Hour Readers.
Carpenter. **Our Little Friends of Eskimo Land**, Papik and Natsek. c1931. American.
Hedrick and Van Noy. **Kites and Kimonos**. c1936. Macmillan
Stories about Japan.
Deming. **Indian Life**. Laidlaw.
The books in the Indian Life Series have been bound together:
(1) Little Eagle, A Story of Indian Life, c1931; (2) The Indians in Winter Camp, A Story of Indian Life, c1931; (3) Red People of the Wooded Country, A Story of Indian Life, c1932.
Title on end of book reads: Indian Life Series.
*Hay. **Happy Days in Holland**. (The Primary Social Studies Series) c1937. Beckley.
Title on end of book reads: Happy Days in Holland.
2. Health and Safety Type Readers.
Charters and others. **Good Habits**. (Health and Growth Series) c1935. Macmillan.
Title on end of book reads: Good Habits.
*Buckley and others. **Here and There**. (The Road to Safety Series) c1938. American.
Title on end of book reads: E. The Road to Safety.
3. Natural Science Type Reader.
Patch and Howe. **Outdoor Visits**. Book Two. (Nature and Science Readers Series) c1932. Macmillan.
Title on end of book reads: Book Two. Nature and Science Readers.
4. Art Type Reader.
Whitford and others. **Art Stories**. Book Two. (Curriculum Foundation Series) c1935. Scott.
Title on end of book reads: Book Two. Art Stories.
5. Literary Type Reader.
Buckingham. **The Great Idea and Other Stories**. (The Children's Bookshelf Series) c1934. Ginn.
Title on end of book reads: The Great Idea and Other Stories.

*Subject to rental after July 1939.

6. Music Type Reader.

Kinscella. **The Man in the Drum and Other Tales.** Stories in Music Appreciation, Book Two. (Kinscella Readers Series) c1930. University Pub. Co.

Title on end of book reads: Kinscella Readers, Book Two.

Fourth Grade

1. Social Studies Type Readers—Geography and History.

Rugg and Krueger. **Nature People.** Man and His Changing Society, Elementary Book II. (The Rugg Social Science Series) c1936. Ginn.

Title on end of book reads: Nature Peoples. Man and His Changing Society.

Washburne. **Letters to Channy—A Trip Around the World.** c1932. Rand.

Leavell and others. **Trails of Adventure.** Book Four. (The Friendly Hour Series) c1935. American.

Title on end of book reads: Book Four. The Friendly Hour.

Carpenter. **Our Little Friends of the Netherlands, Dirk and Dientje.** c1935. American.

*Baker and Baker. **The Earth We Live On.** (The Curriculum Readers Series) c1937. Bobbs.

Title on end of book reads: The Earth We Live On. The Curriculum Readers IV.

2. Health and Safety Type Readers.

Charters and others. **Living Healthfully.** (Health and Growth Series) c1935. Macmillan.

Title on end of book reads: Living Healthfully.

*Buckley and others. **Around the Year.** (The Road to Safety Series) c1938. American.

Title on end of book reads: F. The Road to Safety.

3. Natural Science Type Reader.

Patch and Howe. **Surprises.** Book III. (Nature and Science Readers Series) c1933. Macmillan.

Title on end of book reads: Book Three. Nature and Science Readers.

4. Art Type Reader.

Whitford and others. **Art Stories.** Book Three. (Curriculum Foundation Series) c1935. Scott.

Title on end of book reads: Book Three. Art Stories.

5. Literary Type Readers.

Buckingham. **The Elephant's Friend and Other Stories.** (The Children's Bookshelf Series) c1936. Ginn.

Title on end of book reads: The Elephant's Friend and Other Stories.

Dressel and others. **The Laidlaw Readers.** Book Four. c1928. Laidlaw.

6. Music Type Reader.

Kinscella. **Folk Tales from Many Lands.** Stories in Music Ap-

*Subject to rental after July 1939.

preciation, Book Three. (Kinscella Readers Series) c1930. University Pub. Co.

Title on end of book reads: Kinscella Readers, Book Three.

*7. Study Type Reader.

Yoakam and others. **Reading to Learn. Introductory Book.** c1938. Macmillan.

Title on end of book reads: Reading to Learn. Introductory Book.

Fifth Grade

1. Social Studies Type Readers—Geography and History.

Rugg and Krueger. **Communities of Men. Man and His Changing Society, Elementary Book III.** (The Rugg Social Science Series) c1936. Ginn.

Title on end of book reads: Communities of Men. Man and His Changing Society.

Sherwood. **Makers of the New World.** c1936. Bobbs.

or

*Melbo. **Our America.** c1937. Bobbs.

Rowe. **Discovering North Carolina.** c1933. University of N. C. Press.

Aitchison and Uttley. **North America by Plane and Train.** c1937. Bobbs.

Leavell and others. **The World's Gifts. Book Five.** (The Friendly Hour Series) c1935. American.

*Baker and Baker. **Making America.** (The Curriculum Readers Series) c1937. Bobbs.

Title on end of book reads: Making America. The Curriculum Readers V.

2. Natural Science Type Reader.

Patch and Howe. **Through Four Seasons. Book Four.** (Nature and Science Readers Series) c1933. Macmillan.

Title on end of book reads: Book Four. Nature and Science Readers.

3. Literary Type Readers.

Buckingham. **In a Green Valley and Other Stories.** (The Children's Bookshelf Series) c1934. Ginn.

Title on end of book reads: In a Green Valley and Other Stories.

Dressel and others. **The Laidlaw Readers. Book Five.** c1928. Laidlaw.

4. Music Type Reader.

Kinscella. **Conrad's Magic Flight.** Stories in Music Appreciation, Book Four. (Kinscella Readers Series) c1930. University Pub. Co.

Title on end of book reads: Kinscella Readers, Book Four.

5. Study Type Reader.

Yoakam and others. **Learning New Skills. Book I.** (Reading to Learn Series) c1935. Macmillan.

Title on end of book reads: Reading to Learn, Book One.

*Subject to rental after July 1939.

*6. Health and Safety Type Reader.

Buckley and others. **On Land and Water.** (The Road to Safety Series) c1938. American.

Title on end of book reads: G. The Road to Safety.

*7. Recreation Type Reader.

Buck. **On Jungle Trails.** c1936. World.

Sixth Grade

1. Social Studies Type Readers—Geography and History.

Rugg and Krueger. **Peoples and Countries.** Man and His Changing Society, Elementary Book IV. (The Rugg Social Science Series) c1936. Ginn.

Title on end of book reads: Peoples and Countries. Man and His Changing Society.

Comfort. **Peter and Nancy in Europe.** c1935. Beckley.

*Comfort. **Peter and Nancy in Asia.** c1937. Beckley.

Leavell and others. **Winning Our Way.** Book Six. (The Friendly Hour Series) c1935. American.

Title on end of book reads: Book Six. The Friendly Hour.

Whittemore. **Asia, the Great Continent.** c1937. Bobbs.

Terry. **Lord and Vassal.** Book IV. (History Stories of Other Lands Series) c1926. Row.

Title on end of book reads: History Stories of Other Lands, IV.

*Baker and Baker. **Our World and Others.** (The Curriculum Readers Series) c1938. Bobbs.

Title on end of book reads: Our World and Others. The Curriculum Readers VI.

2. Natural Science Type Reader.

Patch and Howe. **Science at Home.** Book Five. (Nature and Science Readers Series) c1934. Macmillan.

Title on end of book reads: Book Five. Nature and Science Readers.

3. Literary Typé Readers.

Buckingham. **The Masquerade and Other Stories.** (The Children's Bookshelf Series) c1934. Ginn.

Titles on end of book reads: The Masquerade and Other Stories.

*Starbuck. **The High Trail.** (Living through Biography Series) c1936. World.

Title on end of book reads: Living through Biography. The High Trail.

4. Music Type Reader.

Kinscella. **Tales of Olden Days.** Stories in Music Appreciation, Book Five. (Kinscella Readers Series) c1930. University.

Title on end of book reads: Kinscella Readers, Book Five.

5. Study Type Reader.

Yoakam and others. **Gaining New Knowledge.** Book Two. (Reading to Learn Series) c1935. Macmillan.

Title on end of book reads: Reading to Learn, Book Two.

*6. Health and Safety Type Reader.

Buckley and others. **Who Travels There.** (The Road to Safety Series) c1938. American.

Title on end of book reads: H. The Road to Safety.

Seventh Grade

1. Social Studies Type Readers—Geography and History.

Rugg and Krueger. **The Building of America.** Man and His Changing Society, Elementary Book V. (The Rugg Social Science Series) c1936. Ginn.

Title on end of book reads: Building of America. Man and His Changing Society.

Sewell. **Makers of America. Book Six.** (Citizenship Readers Series) c1930. Lippincott.

Title on end of book reads: Citizenship Readers, Six.

Leavell and others. **Working and Dreaming. Book Seven.** (The Friendly Hour Series) c1935. American.

Title on end of book reads: Book Seven. The Friendly Hour.

Comfort. **Peter and Nancy in South America.** c1937. Beckley.

Comfort. **Peter and Nancy in Africa.** c1935. Beckley.

*Comfort. **Peter and Nancy in Australia.** c1937. Beckley.

Wright and others. **Trails Beyond, a Sixth Reader.** (Modern World Readers Series) c1934. Johnson.

Title on end of book reads: Sixth Reader. Modern World Readers.

2. Natural Science Type Reader.

Patch and Howe. **The Work of Scientists. Book Six.** (Nature and Science Readers Series) c1935. Macmillan.

Title on end of book reads: Book Six. Nature and Science Readers.

3. Literary Type Reader.

Buckingham. **The Attack and Other Stories.** (The Children's Bookshelf) c1936. Ginn.

Title on end of book reads: The Attack and Other Stories.

Starbuck. **Real Persons.** (Living through Biography Series) c1936. World.

Title on end of book reads: Living through Biography. Real Persons.

4. Music Type Reader.

Kinscella. **Around the World in Story.** Stories in Music Appreciation, Book Six. (Kinscella Readers Series) c1935. University.

Title on end of book reads: Kinscella Readers, Book Six.

5. Study Type Reader.

Yoakam and others. **Exploring New Fields. Book Three.** (Reading to Learn Series) c1935. Macmillan.

Title on end of book reads: Reading to Learn, Book Three.

*6. Recreation Type Reader.

Persky. **Adventures in Sport.** c1937. Ginn.

*7. Additional Reader for Negro Schools.

Jackson. **Boy's Life of Booker T. Washington.** Macmillan.

*Subject to rental after July 1939.

Arranged by Series and Partial Series

The Children's Bookshelf by Buckingham (Ginn). A series of literary readers, the material for which is largely selected from modern writers.

<i>Series</i>	<i>Grade</i>
Play Days, A Primer	1
Playing Together	1
Munching Peter and Other Stories	2
The Great Idea and Other Stories	3
The Elephant's Friend & Other Stories	4
In a Green Valley & Other Stories	5
Masquerade & Other Stories	6
The Attack & Other Stories	7

Kinscella Readers by Kinscella (University). A collection of poems, stories, and articles of music appreciation content.

<i>Series</i>	<i>Grade</i>
Book One, Storyland	2
Book Two, The Man in the Drum	3
Book Three, Folk Tales of Many Lands	4
Book Four, Conrad's Magic Flight	5
Book Five, Tales of Olden Days ..	6
Book Six, Around the World in Story	7

Health and Growth Series by Charters-Smiley-Strange (Macmillan). Readers with health content. The information is in readable rather than "texty" style.

From Morning Till Night	1
Happy Days	2
Good Habits	3
Living Healthfully	4

Number Stories by Studebaker and Others (Scott). Not a mathematics text, but stories in which number concept is emphasized.

<i>Series</i>	<i>Grade</i>
Number Stories, Book I	1
Number Stories, Book II	2

The Friendly Hour by Leavell and Others (American). A series of readers with social studies content. Upper grade material is composed of selected articles.

<i>Series</i>	<i>Grade</i>
Primer, Ben and Alice	1
Book One, Playmates	1
Book Four, Trails of Adventure ..	4
Book Five, The World's Gifts ..	5
Book Six, Winning Our Way	6
Book Seven, Working and Dreaming	7

Nature and Science Readers by Patch-Howe (Macmillan). Readers with science content. Questions and things to do for each chapter make good check material.

<i>Series</i>	<i>Grade</i>
Book Two, Outdoor Visits	3
Book Three, Surprises	4
Book Four, Through Four Seasons	5
Book Five, Science at Home	6
Book Six, The Work of Scientists	7

Happy Hour Readers by English-Alexander (Johnson). Readers for primary grades which have social studies content.

<i>Series</i>	<i>Grade</i>
Jo-Boy, A Primer	1
Good Friends, A First Reader ..	1
Wheels and Wings, A Second Reader	2
Wide Windows, A Third Reader ..	3

Art Stories by Whitford and Others (Scott). Practical and fine arts are included in these art readers. Note the index.

<i>Series</i>	<i>Grade</i>
Art Stories, Book One	2
Art Stories, Book Two	3
Art Stories, Book Three	4

Social Studies by Hanna and Others (Scott). Individual books which tell the story of everyday activities.

<i>Series</i>	<i>Grade</i>
Primer, Peter's Family	1
Book One, David's Friends at School	2
Book Two, Susan's Neighbors at Work	2

Science Stories by Beauchamp and Others (Scott). Elementary school stories with science content. Note the index.

<i>Series</i>	<i>Grade</i>
Science Stories, Book One	1
Science Stories, Book Two	2

The Unit-Activity Reading Series by Smith (Silver). Elementary grades readers with social studies background.

<i>Series</i>	<i>Grade</i>
II, Round About You	2
III, Near and Far	3

Reading to Learn by Yoakam and Others (Macmillan). Work-type readers for upper grades.

<i>Series</i>	<i>Grade</i>
Introductory Book	4
I, Learning New Skills	5
II, Gaining New Knowledge	6
III, Exploring New Fields	7

Laidlaw Readers by Dressel and Others (Laidlaw). Literary type readers of standard material.

<i>Series</i>	<i>Grade</i>
Book Four	4
Book Five	5

Man and His Changing Society by Rugg-Krueger (Ginn). Social science text-type readers for upper grades.

<i>Series</i>	<i>Grade</i>
Nature Peoples	4
Communities and Men	5
Peoples and Countries	6
Building of America	7

Peter and Nancy Series by Comfort (Beckley-Cardy). Geographical information about life in other lands.

<i>Series</i>	<i>Grade</i>
Peter and Nancy in Asia	6
Peter and Nancy in Europe	6
Peter and Nancy in South America	7
Peter and Nancy in Africa	7
Peter and Nancy in Australia	7

Our Little Friends Series by Carpenter (American). Easy-to-read stories of other lands.

<i>Series</i>	<i>Grade</i>
Our Little Friends of Eskimo Land, Papik and Natsek	3
Our Little Friends of Netherlands, Dirk and Dientje	4

Curriculum Readers by Baker-Reed (Bobbs). Work type readers with social science and literature content.

<i>Series</i>	<i>Grade</i>
Primer, Friends for Everyday	1
The Earth We Live On	4
Making America	5
Our World and Others	6

Living Through Biography by Starbuck (World). Biographies of leaders in many fields. Good character studies.

<i>Series</i>	<i>Grade</i>
The High Trail	6
Real Persons	7

Road to Safety by Buckley and others (American). Selections with safety content, many by well-known children's writers.

<i>Series</i>	<i>Grade</i>	<i>Single Titles with Grade</i>
A. Away We Go. Pre-primer	1	Guidance in Reading Series by Storm (Lyons).
B. Happy Times. Primer	1	
C. In Storm and Sunshine	1	
D. In Town and Country	2	Nip and Tuck. Pre-primer 1
E. Here and There	3	The Henry Stories by Tippet (World). Two easy readers bound together.
F. Around the Year	4	
G. On Land and Water	5	
H. Who Travels There	6	

Primary Social Studies Series (Beckley).

<i>Series</i>	<i>Grade</i>
Story Pictures of Our Neighbors by Beaty	2
Everyday experiences in community life.	
Happy Days in Holland by Hay	3

A visit in Holland to learn of the life there.

The Wonder-Story Books. Reading Foundation Series by Huber and others (Row). Favorite folk stories retold for little children.

<i>Series</i>	<i>Grade</i>
I Know a Story	1
It Happened One Day	2

The Prout Readers by Prout and Baumeister (University). Thought-test readers for vocabulary building.

<i>Series</i>	<i>Grade</i>
Names and Games. Primer	1
Pets and Toys	1
The Duck and the Fox	2

The Scientific Living Series. The How and Why Science Books by Frasier and Dolman (Singer). Highly illustrated, simply worded nature stories.

<i>Series</i>	<i>Grade</i>
We See. Pre-primer	1
Sunshine and Rain. Primer	1
The Alice and Jerry Books by O'Donnell and Carey (Row).	
Rides and Slides. Pre-primer	1
Here and There. Pre-primer	1

Henry and the Garden and Stories about Henry 1

The Picnic by Tippet (Grosset) 1

The story of Southern Negro children on a picnic.

Happy Road to Reading by Dopp and others (Rand). Social science reader.

Outdoors and In 2

Kites and Kimonas by Heddrick-Van Noy (Rand). A story of life in Japan.

Indian Life Series by Deming (Laidlaw). Three titles bound as one book: (1) **Little Eagle**, (2) **Indians in Winter Camp**, (3) **Red People of the Wooded Country**. The stories contain increasingly difficult language content.

Indian Life 3

Letters to Channy by Washburne (Rand) 4

Channy's mother writes him letters about the places she visits in a trip around the world.

Makers of the New World by Sherwood (Bobbs) 5

Biographies of the founders of our country.

Our America by Melbo (Bobbs) 5

Collection of biographies of fam-

Single Titles with Grade

ous Americans who have contributed to social living.

On Jungle Trails by Buck
(World) ----- 5

The story of capturing alive many wild animals. Recreational reading.

Discovering North Carolina by
Rowe (N.U.C. Press) ----- 5

Social, literary, and industrial aspects of our State. Each chapter has references.

North America by Plane and Train by Aitchison-Uttley
(Bobbs) ----- 5

Much needed geography material about our own continent.

History Stories of Other Lands by Terry (Row). Medieval days in Europe. Well illustrated.

IV, Lord and Vassal ----- 6

Asia, The Great Continent by
Whittemore (Bobbs) ----- 6

Single Titles with Grade

A geographical reader about Asia.

Modern World Readers by Wright and others (Johnson). Social studies reader.

Sixth Reader, Trails Beyond --- 7

Citizenship Readers by Sewell (Lippincott). Outstanding figures in the making of our country and their contributions to it.

Makers of America, Book VI --- 7

Adventures in Sport by Persky
(Ginn) ----- 7

Stories with sports background selected from well-known writers. Recreational reading.

Boy's Life of Booker T.
Washington by Jackson
(Macmillan) ----- 7

The life and contribution to his race of an outstanding Negro educator.

LIBRARIES

A copy of the *North Carolina School Library Handbook*, Publication No. 197, State Department of Public Instruction, should be in every school.

The North Carolina Education Association publishes a *Library Book Catalogue* approved by the State Department of Public Instruction. Books can be purchased from the Association or from any reliable book dealer.

Requirements for the library in an accredited elementary school are found on page 15; in an accredited high school on page 31.

INSTRUCTIONAL SUPPLIES

**Suggestions for the Selection, Purchase, and Distribution of
Instructional Supplies**

The success or failure of many important phases of school work is largely determined by the type and quality of the instructional supplies used. Much time and effort is spent in the selection and listing of a good quality of supplies for school uses. This list is published each year by the Division of

Purchase and Contract. Copies of this list are available in the office of the superintendent of each administrative unit.

In order to differentiate between a supply and a piece of equipment the following definitions should be considered:

1. *Supply* is any article, the use of which involves its consumption.
2. *Equipment* is any article which is used from year to year.

Instructional Supplies should not be confused with *equipment* (such as chairs, tables, books, charts, wall maps, globes, pictures, etc.) but may be differentiated from equipment by the fact that the teacher or pupils use up the *supplies* in the teaching.

Instructional supplies may be purchased by the teacher only when private donations and personal moneys are being used. The purchase of instructional supplies from public school funds should be made by the county or city superintendent by and with the approval of the Division of Purchase and Contract.

I. Recommended Procedure.

Study the Handbook for Elementary and Secondary Schools (this bulletin, pp. 70-73) and Certification of State Contract for the current year, issued by the Division of Purchase and Contract, with a view to:

Selecting a committee to help with planning the orders for county and city administrative units, representing county and city superintendents, county and city principals and teachers.

Informing the committee as to wise and economical plans:

Items which an adequate budget provides.

Meaning of terms, *supplies* and *equipment*. (See statement above.)

Amount of State allotment for instructional supplies.

Bases for spending the allotment:

Selecting with regard to number of pupils those materials which will help children to succeed in achieving recognized objectives of school life.

Making as economical choice of materials as possible.

Buying with a view to future additions for each individual school until a minimum standard is reached.

Ways of supplementing the allotment if needed.

II. Sample Order for a First or Second Grade of Forty Pupils for a Term of Eight Months.

This is a suggested list of supplies to be bought on a small budget, and may be regarded as a *first list* which should be added to as the funds are available.

<i>Item</i>	<i>Description</i>	<i>Amount</i>	<i>Approx. Price</i>
Paper	Manila drawing (assorted sizes)	5 reams	\$ 1.55
Paper	Construction (assorted colors and sizes)	1 ream	1.30
Paper	Poster (assorted colors)	1 ream	.45
Paper	Newsprint (assorted sizes)	1 ream	.50
Paper	Bogus (assorted sizes)	1 ream	1.50
Paper	Wrapping paper (18 in. or larger)	1 roll	1.15
Paper	Penmanship, canary newsprint	5 reams	.70
Paper	Practice, white newsprint	5 reams	.63
Tagboard	Manila (24 x 36)	100 sheets	1.60

Tagboard	Manila (4 x 24)	200 strips	.36
Paste		1 quart	.30
Crayon	Primary	24 boxes	4.00
Crayon	Colored blackboard (green, yellow, orange)	1 box	1.43
Pencils	For first grade	$\frac{1}{2}$ gross	2.25
Pencils	For second grade	$\frac{1}{2}$ gross	1.00

III. Sample Order for a Grade of Forty Pupils for a Term of Eight Months. (This applies to grades above the second.)

<i>Item</i>	<i>Description</i>	<i>Amount</i>	<i>Approx. Price</i>
Paper	Manila drawing (assorted sizes)	5 reams	\$ 1.55
Paper	Construction (assorted sizes and colors)	5 reams	1.30
Paper	Newsprint (assorted sizes)	1 ream	.50
Paper	Bogus (assorted sizes)	1 ream	1.50
Paper	Wrapping paper (18 in. or larger)	1 roll	1.15
Paper	Penmanship	5 reams	1.70
Paper	Practice	5 reams	.63
Tagboard	Manila (24 x 36)	100 sheets	1.60
Paste		2 quarts	.60
Crayon	Pressed	24 boxes	2.70
Crayon	Wax	24 boxes	1.60
Crayon	Colored blackboard (green, yellow, orange)	1 box	1.43
Pencils	For third grade	$\frac{1}{2}$ gross	1.08
Pencils	For upper grades	1 gross	2.00
Pencils	Colored Lead	$\frac{1}{2}$ gross	3.00

IV. A Sample Minimum "Long Time" Guide Plan for Purchasing Instructional Supplies.

<i>Item</i>	<i>Purchase Unit</i>	<i>Amount per school per year</i>
Brushes, large, long handled	$\frac{1}{2}$ doz.	$\frac{1}{2}$ doz. until 2 doz. each class
Brushes, camel's hair	$\frac{1}{2}$ doz.	$\frac{1}{2}$ doz. until 2 doz. each class
Crayons, wax, large	boxes	1 doz. each color B Y G R O V Br. Bl. until 2 doz. per Beginners Class
Crayons, pressed, large	boxes	1 doz. each color B Y G R O V Br. Bl. until 2 doz. per Beginners Class
Erasers-ink	lb.	lb. until eraser for every 5 pupils
Erasers-pencil	lb.	lb. until eraser for every 5 pupils
Glue	bottle	1 until 1 per class
Linoleum blocks	doz.	1 block per pupil until 4 per pupil
Paper-bogus size (24 x 36)	100 sheets or ream	1 roll per school or sheet per child
Paper-Canary second sheets	100 sheets or ream	2 reams per class
Paper-colored const. (9 x 12)	100 sheets or ream	1 sheet each color per pupil
Tagboard (24 x 36)	100 sheets	100 per grade
Paper-manila drawing (9 x 12 and 18 x 24)	100 sheets or ream	50 sheets per pupil
Paper-poster	100 sheets or ream	1 sheet each color for $\frac{1}{2}$ enrollment
Paper-newsprint (36 x 52)	100 sheets or ream	1 sheet per pupil until roll per class

Paper-wrapping	roll	1 roll per school (light wt. 500 yds.; medium wt. 300; heavy wt. 200)
Paper-penmanship	100 sheets or ream	300 sheets per pupil
Paper-practice	100 sheets or ream	160 sheets per pupil
Paint-inside	1 pt.	1 pt. ea. color R G Wh Gr O Bl Y
Paint-oil	doz. tubes	1½" x 4" tube ea. color per school
Paint-cold water	1 lb. pkg.	2 lb. pkg. ea. of B G Y R Bl. O Br. Wh.
Paste	1 jar	1 qt. until 1 for each 100 pupils enrolled
Pencils-large	½ gross	1 pencil per child per term for beginners
Pencils-small	½ gross	1 pencil per child until 2 per child
Pencils-regular	½ gross	2 doz. pencils per class (Gr. Gr.) until 5 per child

V. The Teacher's Part in Use and Care of Instructional Supplies.

She is responsible for knowing what materials are essential for carrying on an acceptable program of school work.

She is responsible for so guiding children in the economical use and care of these materials that they realize the greatest possible benefit from them.

She must plan a time, place, and a routine of management for these.

Some suggestions are:

Labeled boxes of crayon according to color.

Shelving in some central space for school supplies of paper, crayon, chalk, water colors, etc.

A schedule for use of the various articles when there is not enough to supply each child enrolled in school.

She should supplement supplies with available free or inexpensive materials:

Boiled flour paste, catalogs, magazines and other periodicals having pictorial features.

A collection of clean old clothing, linen and scraps for use in study of textiles, weaving, dyeing, decoration, designing, bandaging, upholstering, quilting, rug-making, etc.

Charcoal for drawing, sketching, scientific experiments, etc.

Bogus paper and Kraft wrapping paper (iron wrinkles out with warm iron) to be used for news writing, posters, friezes, "cut-outs", costuming, book-making, etc.

Clay (often found where excavations have been made).

Stones to be identified and placed in class or school museum.

Honeysuckle vine skinned for weaving.

"Wire grass" dried and cured for weaving.

Shells for constructing novelty birds, animals, houses, favors.

Linings of colored envelopes for decorative effects in book covers, book-ends, waste baskets, etc.

Boxes for filing and labeling materials, for constructing houses, etc.

Photographic plates, hose boxes, cigarette cases (metal) for mounting specimens of butterflies, flowers, insects, etc.

Mill ends for constructing play houses, flower boxes, etc.

Posters from travel companies illustrating good art principles.

A file of informational bulletins filed for teachers' and pupils' use.

Gourds, cigar boxes, cheese heads, kegs, bottles, spoons, tin cans,

horseshoes, glasses, bells, combs, for homemade musical instruments.
Feathers, hides, etc., for costuming, decoration, and study.
Cellophane for construction work, protecting specimens, etc.
Salt and flour relief maps.
Sand (outdoor and indoor) for primary classes.
Cotton for upholstering, wigs, bandages, etc.
Horseshoes, broom handles, ropes, spoons, bottles, potatoes, hoops, beans, etc., for play.
Clean grease from kitchen for cold process soap-making.
Odd sized paper from printing office for number work, spelling, colored construction work, "matting" strips, etc.

VISUAL EDUCATION

Importance of Visual Aids in Teaching

One of the most significant trends in modern education is the increasing use of visual aids in teaching. It has been estimated by some investigators that four-fifths of our information is acquired visually. Perhaps this is an over-statement, as all the senses are so intimately interlinked that it would be difficult, if not impossible, to isolate any one sense and determine accurately the contribution it makes in the total learning situation. Nevertheless, the visual factor can certainly be regarded as the most important single factor when we consider the total sensory experience in a teaching situation. "One picture is often worth a thousand tellings," reads an ancient Chinese proverb, and certainly the use of visual aids agrees with the Herbartian principle that learning must be meaningful and have its basis in reality and concreteness rather than abstraction. Through visual instruction the teacher is able to cultivate and direct the imagination of the pupil, so as to replace vagaries with correct impressions. Pictures and other visual aids constitute a universal language and tend to draw the pupil away from the formal language of the textbook and lead him into creative expression wherein he relies upon his own vocabulary.

Visual instruction is by no means a new method of instruction. Comenius in the seventeenth century condemned the practice of teaching children words without meaning and said, "The child must learn not only from words, but also with objects along with words." In keeping with his belief, his book, *Orbus Pictus*, was appropriately illustrated. Only until recent years, however, has science produced the means whereby still and motion pictures can be used in the average school room without the cost being out of proportion to their value as teaching aids. With the increased volume of business which manufacturers of visual aids will derive from a wider use of such materials, it is not too much to expect price reductions which will eventually place all types of visual aids within the reach of even the poorest schools. Energetic teachers will procure large amounts of visual material from free sources and construct other materials of their own design at a minimum of cost.

The Scope of Visual Instruction

The field of visual instruction covers all the methods and materials used in bringing reality to the pupil in the classroom and elsewhere. Too many teachers have narrowly interpreted visual education to mean the showing of motion pictures or lantern slides in the classroom. While these aids are

without question very important ones, teachers should realize that visual education includes in its scope the following:

1. School journey or field trip.
2. Objects, specimens, and models.
3. Museum collections.
4. Blackboards and bulletin boards.
5. Posters, diagrams, and graphs.
6. Maps, charts, and globes.
7. Microscopic and stereoscopic views.
8. Photographs, magazine and book illustrations.
9. Individual and film-strip projection slides.
10. Sound and silent motion pictures.

Visual Equipment Needed

A minimum list of equipment to facilitate the use of visual aids in the classroom would include:

1. Appropriate field trip equipment, such as camera, binoculars, insect net, specimen case, etc.
2. A museum collection of objects, specimens, and models, with checking system to facilitate classroom circulation.
3. Blackboards and bulletin boards with graphic materials for display.
4. Modern maps, charts, and globes.
5. A file and materials for cutting and mounting flat pictures.
6. A supply of pictorial material for the various school subjects:
 - a. Flat pictures.
 - b. Stereographs and stereoscopes.
 - c. Lantern slides.
 - d. A supply of 16 mm. sound and silent motion pictures (free or rented films may be used).
 - e. Film slides and film strips.
7. Projectors
 - a. Lantern slide or film strip projector.
 - b. 16 mm. motion picture projector, sound preferred.
8. A good motion picture screen.
9. Numerous visual textbooks and illustrated magazines.

The practical limitations of this Handbook prevent a discussion of all types of visual aids. However, suggestions will be given concerning the school journey, school museum, the use of flat pictures, projection slides, and motion pictures. Material dealing with all phases of visual education may be found among the references given.

The School Journey or Field Trip

Though some schools are more favorably located than others, every school has in its immediate neighborhood points of interest which make possible most effective approaches to the study of nature, science, geography, history, and other subjects. In urban areas profitable journeys might be made to such places as the post office, museum, library, city hall, and the various centers of activity in communication, transportation, and industry. In rural areas trips to such places as a farm, a dairy, a nearby meadow or stream, an old cemetery or some point of historical or geographical significance should prove beneficial. Such journeys bring children into direct contact with a real life situation where they may observe first-hand the various elements in their proper relationships. These excursions provide real experiences in their most concrete forms at a minimum of expense.

Before making a journey teachers should make sufficient advance preparation to care for all necessary details in order that the excursion may be most

effective from the standpoint of pupil learning. The following steps of the school journey technique may be suggestive in this connection:

1. Set a definite purpose for the journey.
2. Direct pupils into a recognition of the need for the journey.
3. Determine the time to be spent on the journey to make it effective.
4. Make necessary arrangements with the principal and superintendent and the owners or managers of the properties to be visited.
5. Procure the aid of interested patrons or civic leaders in conducting the group to insure pupil safety and economy of time.
6. Gather pertinent materials and do sufficient advance study to insure effective guidance and direction of pupil interest.
7. During the journey lesson stimulate the pupils to ask questions; integrate the elements of the situation and establish correct sequence of operations where processes are observed.
8. Follow up the journey with purposeful lessons. Allow a maximum of pupil participation through reports, discussion, and group activities; stimulate pupils to do additional research and evaluate what has been observed and the worth of the excursion.

REFERENCES:

- Hoban, Hoban, and Zisman. *Visualizing the Curriculum*. The Cordon Co., New York, 1937.
- Hoban, C. F. *The School Journey*. Educational Monographs, Department of Public Instruction, Harrisburg, Pa.
- Lubeck, Armin K. "The Organization of Field Excursions." In *Thirteenth Yearbook, Department of Elementary School Principals*. National Education Association, Washington, 1934.
- Gregory, W. M. "Modern Aids for Experiences in Learning." In *Eighth Yearbook, Department of Supervisors and Directors of Instruction, National Education Association*. Columbia University, New York, 1935.

The School Museum

Museum instruction is valuable in that it deals with real objects, the original work of nature or of man. While in many cases the museum object is displayed out of its original setting, thus losing one of the features of instruction dominant in school journey instruction, it presents a variety of visual material that perhaps could not be seen during any number of field trips. The newer methods of museum display show objects in their natural setting, thereby making apparent various relationships otherwise often overlooked. Schools which establish and properly use museums make the materials of the object-specimen-model technique instantly available. Museum objects have not only visual value, but since many of them can be handled by pupils, they have other sensory values as well. The importance of using real objects to make otherwise elusive ideas concrete can hardly be over-emphasized. The great handicap in museum instruction in North Carolina is the lack of museums and the inadequate use of those in existence. This will be no deterrent to visual instruction where enthusiastic and diligent teachers are concerned, as much museum material can be had for the asking, much of it within a stone's throw of the classroom. In fact, the most valuable museum objects as far as public school instruction is concerned are those taken from the child's own environment. The collection, identification, preservation, and displaying of museum pieces is an education in itself. In most instances children will do the major part of the work required in establishing a museum and will do it most enthusiastically.

North Carolina has been described as "Nature's Sample Case." The variety

and excellence of museum objects to be found in the State is almost limitless. A partial list might include:

- I. Natural specimens: Pressed plant leaves (herbarium); tree sections, wood specimens; peculiar wood formations; seed collection; live (or preserved) specimens of animal life, such as frogs, lizards, moles, rats, snakes (terrarium); fish, snails, etc. (aquarium); abandoned bird nests (see local game laws); mounted specimens of birds, mammals, or fish; insects, live and preserved; sea shells; bones; fossils; rocks and minerals.
- II. Pioneer relics: Old household utensils, such as pots, pans, lamps, spinning and weaving equipment, candle molds, costumes, pottery; old firearms, powderhorns, shot-molds; old coins, documents, books.
- III. Indian relics: Arrow points, stone knives, tomahawks, spears, drills, baskets, pottery.
- IV. School-made dioramas showing human activity in miniature. Such dioramas might deal with picking cotton, threshing wheat, curing tobacco, commercial fishing, lumbering, or life in a distinct geographic region such as the Arctic Circle.
- V. Exhibits from commercial firms showing manufacturing process from raw materials to finished product. (Teachers should use this material wisely and avoid propaganda and advertising exhibits which have no teaching value.)

REFERENCES:

The North Carolina State Museum, Raleigh, N. C., from time to time publishes mimeographed circulars describing its work and services. These may be had by writing to the curator. The museum is open on all week days from 9:00 to 5:00 and welcomes visits by school groups. The museum will also assist teachers in identifying specimens and advise teachers concerning the preparation and preservation of unusual material. The Junior League of Raleigh will furnish guide service for the museum and other places of interest in Raleigh.

Broderson, Gertrude. "Our Museum". In the *Journal of the National Education Association*, 25:211, October, 1936.

Reports from the children's museums in the cities of Milwaukee, Newark, Duluth, Pittsburgh, Boston and Toledo. In *School Arts*, October, 1936. Vol. 36, No. 2.

The Toledo Museum of Art, *The Museum Educates*. Toledo, Ohio, 1937. 42 pp.

Routzahn, E. G., and Swain, Mary. *The A B C of Exhibit Planning*. The Russell Sage Foundation, New York, 1919.

Flat Pictures

The recent improvements in the methods of reproducing pictures have made possible a widespread use of this type of visual material. Current periodicals such as *Life*, *Building America*, the *National Geographic Magazine*, and many others, are replete with pictures which the wide-awake teacher will appropriate for classroom use. While some of this material may be unsuitable for school use at various grade-levels, the intelligent teacher will screen out the best and file it for ready reference. In choosing

still pictures the teacher should make selections which meet some criteria such as those suggested in "Visualizing the Curriculum":*

1. The picture must present a true, up-to-date portrayal of the thing it illustrates.
2. It must be characteristic of the thing being studied.
3. It must have the qualities of clarity and photographic excellence.
4. The composition must be pleasing and effective so as to make a dramatic, concentrated revelation.
5. It should in most cases depict action. Posed groups and inanimate objects are usually uninteresting.
6. The picture should be of proper grade level. First grade children, for example, would derive little benefit from a picture of the Parthenon, whereas the high school senior might profit much.
7. The picture should be related to what is being studied, should be integrated with the activity or large unit of study.
8. It should be of sufficient size to be effective. Practical limitations of space dictate that the picture be placed in the individual pupil's hands.
9. The number of pictures used in a teaching situation should be few and well-selected.
10. The finish of the picture should be in keeping with the subject and the purpose for which it is to be used. Generally speaking, this means glossy or smooth prints for detail and clarity, rough or mat prints for artistic treatment and impressionistic portrayals.

To derive full benefit from still pictures as visual aids they should be properly mounted and prepared for display. Suitable filing space and a complete catalog should be provided.

REFERENCES:

- Alexander, Marie E. "Preparing and Filing Mounted Materials." In *Thirteenth Yearbook, Department of Elementary School Principals*. National Education Association, Washington, 1934.
- Proudfoot, Malcolm. "Photographs in Teaching Geography." In *Journal of Geography*, 34-61-67, February, 1935.
- Hoban, Hoban, and Zisman. *Visualizing of the Curriculum*. The Cordon Co., New York, 1937.

Projection Slides

The printed picture is usually so small in size as to be ineffective unless placed in the hand of the individual pupil. Where it is desirable to present pictures to a group it is most practical to resort to some method of projection. This necessitates a dark, or partially dark, room and suitable projection equipment, including a screen. In the field of still picture projection there are two types of projectors, the opaque and the transparent. The opaque projector is valuable because it makes possible projection of opaque photographs and pictures from printed books and periodicals. This method has its limitations, as it requires a thoroughly darkened room, and the equipment is somewhat cumbersome. The average opaque projector ranges in price from \$75 to \$110, whereas suitable glass lantern slide projectors can be procured for about \$70 and filmstrip projectors for classroom use for about \$35.

The filmstrip is the most recently developed medium for showing still pictures to groups. The positive film prints are made on 35 mm. film in series, and a set of twenty-five to seventy-five pictures may be purchased at an average cost of from two to five cents per picture. Such a strip weighs

*Hoban, Hoban, and Zisman. *Visualizing the Curriculum*. The Cordon Co., New York, 1937.

about an ounce and can be carried in a box that will fit in the palm of the hand. A large and growing library of filmstrips is available from commercial producers.

REFERENCES:

- Dent, Elsworth C. "Lantern Slides, Film Slides, etc." In *Handbook of Visual Instruction*, p. 13-59. Brigham Young University, Provo, Utah, 1934.
- Hamilton, George E. *The Stereograph and Lantern Slide in Education*. Monograph. Keystone View Co., Meadville, Pa.
- Thomas, Katheryne C. "Teacher-and-Pupil-Made Slides." In *Grade Teacher*, 49:270-71, 305, December, 1931.

The Motion Picture

Of all visual aids the motion picture seems destined for the widest use in schools. Since the advent of the sound motion picture commercial theatres have reached 15,000 in number and exhibit to 90 million people each week.* In areas where motion pictures are physically available each child goes to the movies once a week on the average.** Consequently it is quite obvious that regardless of the use schools make of this instructional medium it exerts a tremendous influence on the accumulation of knowledge, habits, and skills and affects in a large measure the development of ideas, attitudes, and emotions of impressionable youth. Schools, however, are using the motion picture. A survey*** made in 1936 revealed that the schools in this country owned 6,600 16 mm. projectors and 3,600 35 mm. projectors. Of these 800 were sound projectors.

The motion picture has all the advantages of other pictorial aids with the added advantage of portraying motion. The sound motion picture, of course, goes still further in that it stimulates the auditory sense and makes a closer approach to reality.

The sound motion picture nevertheless is not the answer to all of our instructional problems. It is not a robot teacher and must be regarded as only a supplementary teaching aid. Its practical limitations are its expense, lack of suitably darkened exhibition rooms, and readily available films at the instant needed.

To be maximally effective, teachers should devise a teaching plan for each film shown. The following procedure is suggested:

1. Pre-view the film.
2. Evaluate the worth of the film in connection with the subject or unit being studied.
3. Prepare the pupils in order that they may have a purpose in seeing the picture.
4. Determine what comment, if any, the teacher should make during the presentation.
5. Follow up the presentation with a discussion period.
6. Summarize the teaching of the film—encourage pupil participation in the formulation of principles, generalizations, and opinions.
7. Examine and check pupil observations—repeat the showing of the film if the check reveals a need for it.
8. Integrate the learning gained through seeing the film with that gained through other instructional procedures.

*Bulletin, 1937, No. 2, *Development of Educational Method*. United States Department of the Interior, Office of Education, Washington, D. C.

**Charters, W. W. *Motion Pictures and Youth*. A Summary. (Payne Fund Studies). Macmillan. 1933.

***Koon, C. M. and Noble, A. W. *National Visual Education Directory*. American Council on Education, Washington, D. C. 1936.

Choosing Motion Picture Equipment

Motion pictures are produced chiefly in three sizes, 8 mm., 16 mm., and 35 mm. The 8 mm. is produced chiefly for home use; the 16 mm. size is most practical for the classroom and small auditorium and the 35 mm. size for large auditoriums and commercial theatres. The average school which can afford only one projector will probably find the 16 mm. size most practical. Projectors of this size are manufactured by several reliable commercial firms, and 16 mm. films are procurable in practically all fields of subject matter, both in silent and sound versions.

Projectors satisfactory for showing silent 16 mm. films in schools can be purchased at a price ranging from \$60 to \$280. The sound producer for 16 mm. films can be purchased with illuminating units of 500-, 750-, and 1000-watts at a price ranging from \$350 to \$900. Screens are essential for most effective reproduction and can be obtained in beaded, silvered, and white surfaced types at prices ranging from 40¢ to \$1.25 per square foot. Where rooms can be sufficiently darkened the white screen is most satisfactory, as it is a better diffuser and presents a better picture to the observer seated at an angle from the projector. The other types of screens produce brighter pictures, but are limited to a narrower angle of effective observation.

REFERENCES:

- The Motion Picture in Education.* American Council on Education, Washington, D. C., 1937. 10 cents.
- Dale, Edgar, *Teaching With Motion Pictures*; and Ramseyer, Lloyd L., *A Handbook of Administrative Practice.* American Council on Education, Washington, D. C., 1937. 40 cents.
- Up-to-date, valuable material.
- Blumer, Herbert, *Movies and Conduct.* Payne Fund Studies. Macmillan, 1933.
- Burnstetter, M. R., *How to Use the Educational Sound Film.* University of Chicago Press, Chicago, 1937.
- Chartus, W. W., *Motion Pictures and Youth. A Summary.* Payne Fund Studies. Macmillan, 1935.
- Dale, Edgar, *The Content of Motion Pictures.* Payne Fund Studies. Macmillan, 1935.
- Dale, Edgar, *How to Appreciate Motion Pictures.* A Manual of Motion Picture Criticism Prepared for High School Students. Payne Fund Studies. Macmillan, 1933.
- Devereaux, F. L. et al, *The Educational Talking Picture.* University of Chicago Press, Chicago, 1933.
- Koon, Cline M. et al, *Motion Pictures in Education in the United States. A Report Compiled for the International Congress of Educational and Instructional Cinematography.* University of Chicago Press, Chicago, 1934.
- Wood, Ben D., and Freeman, F. N., *Motion Pictures in the Classroom.* Houghton, 1929.

Sources of Information, Materials, and Equipment for Visual Instruction

A complete listing of all sources of visual materials would require more space than can be allotted for such in this Handbook. The following publications give exhaustive lists:

- Koon, Cline M. *Sources of Visual Aids and Equipment for Instructional Use in Schools.* Pamphlet No. 80, 1937. Department of the Interior, Office of Education, Washington, D. C. 10¢.

A comprehensive list of the principal manufacturers and distributors of visual and auditory aids.

Dent, Ellsworth C. *The Audio-Visual Handbook*. Society for Visual Education, Inc., Chicago. \$1.25 paper; \$1.75 cloth.

A handbook of information in convenient form with evaluation of practices, procedures, and various kinds and types of visual-sensory aids. Contains valuable lists of sources of materials.

Educational Film Catalog. H. W. Wilson.

Educational Screen, 64 E. Lake St., Chicago, Ill. \$2 a year. A magazine devoted exclusively to visual education.

Motion Pictures of the World. International Educational Pictures, Inc., 40 Mount Vernon St., Boston. \$2 a year.

"1000 and One" *Blue Book of Films*. Educational Screen, 64 E. Lake St., Chicago, Ill.

An annual film directory of several thousand classified films, including free films, with brief synopsis. Lists over 200 distributors. University of North Carolina. *Audio-Visual Aids to Schools, Colleges, and Adult-Study Groups*. Extension Bulletin No. 2, Volume XVII, 1937. Univ. of N. C. Press. Free.

Describes distribution service of the Extension Division of the University of North Carolina and lists films and other aids available in Chapel Hill.

Visual Review. Society for Visual Education, Inc., Chicago, Ill. An annual publication dealing with visual instruction and visual materials.

RADIO IN EDUCATION

As a social force radio has reached a place of prime importance in modern life. About three-fourths of all the homes in the United States are equipped for radio reception, and every type and kind of radio program is available to the listener. The use of radio in the schools of North Carolina, however, has not kept pace with the use of radio in the home. Many schools, nevertheless, are using the radio as a means of supplementing and enriching their regular school programs. Instruction in subjects which the teacher is not qualified to teach is made available through radio, and often experts whom no school could hope to have in person can be readily introduced through this medium. Through the use of the radio in the classroom much can be done to vitalize the curriculum, especially in the fields of language, music, drama, history, and current events.

The radio should never be regarded as a mechanical teacher. Teachers using this medium of instruction should be in the position of a colleague of the teacher before the microphone and assist that teacher by preparation of pupils for the broadcast and by introducing visual and other sensory aids that will help to give the pupils a clearer understanding of the material presented over the air. Mere passive listening is practically useless except for its recreational value.

Every broadcast chosen by the teacher and pupils should be selected with some definite purpose in mind and should result in some worth-while activity on the part of the pupils. As a rule teachers' manuals are available for the various series of broadcasts designed for school use. These should be obtained by the teacher and used intelligently to insure proper coordination and integration of all projects and activities carried on. Frequently pupils need a background of facts and concepts to fully enjoy and appreciate a radio program. The classroom teacher should make sure that this background is supplied. After the broadcast a check should be made to determine how well the pupils have assimilated the material, and any erroneous impressions should be corrected.

The following procedure for using the radio is suggested:

1. Make complete advance preparation.
 - a. Select good references pertaining to the content of the broadcast expected and guide pupils in using this material.
 - b. Select good visual aids to be introduced in connection with the program.
 - c. Provide a radio receiving set sufficiently large and mechanically perfect enough to provide the best reception.
 - d. Set up specific aims for each broadcast, such as information to be gained and attitudes and appreciations to be developed.
2. Create a listening atmosphere for the broadcast.
 - a. Secure the undivided attention of every pupil.
 - b. Allow no interruptions.
 - c. Select a room free from the objectionable noises of the street or playground.
3. Provide a follow-up period.
 - a. Make local adaptations.
 - b. Discuss the material presented and the force of presentation.
 - c. Encourage pupil participation in summarizing and stating general principles.
 - d. Check pupil learning and attitudes.
4. Evaluate the program and determine future activities.

In selecting programs for use in the classroom teachers should consult the daily radio columns of the newspapers and the classified schedules published by periodicals dealing with radio. By request schools can obtain broadcasting schedules from the Columbia Broadcasting System, the National Broadcasting Company, and the Mutual Broadcasting System. From the programs available only programs of definite educational value should be selected. Among these are:

1. Series of broadcasts prepared especially for school use.
2. Special programs of music.
3. Current events broadcasts.
4. "At the scene" broadcasts of events of historical, scientific, or other importance.
5. Programs in observance of special days or weeks.
6. Foreign broadcasts in language understandable by pupils.

In making selections teachers should avoid programs of blatant commercialism, propaganda, and cheap, jazzy entertainment. Furthermore, the program should be in keeping with the grade level of the class. Most programs are adaptable only to groups of the normal classroom size; programs suitable for presentation to large auditorium groups are very seldom available.

Education by radio demands an efficient technique. Those who would use this medium of instruction effectively should study the literature dealing with this subject. Leading educational publications carry numerous articles on radio in education. Much information on this subject can also be procured without charge by writing the Office of Education, Department of the Interior, Washington, D. C. The following references should also prove helpful:

Koon, C. M. *The Art of Teaching by Radio*. Superintendent of Documents, Washington, D. C., 1933. 10¢.

Ruth and Johnson. *The American School of the Air*. The American School of the Air, 485 Madison Avenue, New York City.
Education by Radio. National Committee on Education by Radio, 1201 Sixteenth Street, N. W., Washington, D. C. A four page publication issued periodically.

Write the following for information:

National Advisory Council on Radio in Education, Inc., 60 E. 42nd Street, New York City.

National Broadcasting Company, 30 Rockefeller Plaza, New York City.

Columbia Broadcasting System, Inc., 485 Madison Avenue, New York City.

Mutual Broadcasting System, Cincinnati, Ohio.

PRINCIPLES OF ORGANIZATION AND ADMINISTRATION

ELEMENTARY SCHOOLS

Roster of Pupils for the Year

Who they are

A complete list of pupils who should attend school should be available at the opening of school. This list may be compiled by consulting the previous year's school register, the census reports, and by a survey of the homes in the school community. It is important that this information be assembled before the closing of schools in the spring. It is also essential to list the children who are to enter school for the first time in the fall.

What they are

In addition to a complete list of pupils for the date of school opening, there should be on file for reference and study, information concerning the educational status of each pupil belonging to the school. The progress and achievements of each pupil, including history and records of their physical, mental, and social growth and development, should be a part of this information. A knowledge of the individual pupil's present equipment for profiting by the learning situations provided by the developing curriculum is essential to the successful organization and administration of the school as a whole. Plans for securing the needed information about the individual pupil should include:

1. Well organized clinics for the pre-school child in which facts are assembled from physical examinations, from conferences with parents, and from mental tests administered. These clinics should be held during the spring term prior to the child's entrance to school in the fall, and in connection with a Beginners' Day Program.
2. Teachers' reports of pupil's present equipment, progress, and achievement as found in the individual pupil history records on file and in the school register.
3. Pupil participation in conferences on work assignments; responses to various types of tests and measurements; their reactions to suitable and profitable learning situations.

Potential and possible progress

The planning of the schedule and program of work within a grade or any section or class should be based upon the needs and interests of the individual pupils. With this information at hand the teacher is less likely to make demands upon pupils' abilities when they are not prepared or do not have a readiness for such experiences. In any learning situation it is important

for the child to begin with what he has achieved or accomplished, and his progress is largely dependent upon the teacher's knowledge of where to begin. As the teacher and pupil work together her opportunity to observe his responses and reactions increases her opportunity for suitable guidance in helping the pupil to work up to his maximal capacities.

A Point of View

1. In modern educational practice we believe in the larger unit organization of ideas. Whatever lesson unit or assignment is given, this should not be confined to the limitations of one school subject. In progressive classroom procedures the relationship of subjects as taught in the elementary school is regarded as important.

2. We believe that it is important for the classroom teacher to guide the class or group of children through the lesson situations for the entire school day. In addition to this, we believe that it is important for a teacher to study with and work with one group of children over a long period of time. In this way, she will gain an understanding of the individual child and will be able to meet his needs much more readily.

3. Therefore a grade teacher should be responsible for the work of the class, covering a number of school subjects in order to integrate the child's work for the school day or school term. This correlation of work or integration of subject matter is impossible when several different teachers must go into the classroom and work with the children in one of the various subject matter fields.

4. We do not think it best for the young child in the elementary school to be called upon to respond to a great many different personalities, and to have to live under the different regimes as outlined by different teacher programs. The child has little opportunity to organize his learnings from the different subjects, when the subjects are taught in isolated fashion and by several different persons in each school day's program.

Procedures

1. In elementary schools in North Carolina the basis of organization is the grade or group system.

2. Accredited elementary schools are provided with one or more teachers per grade for grades one through seven.

3. Teachers are trained for the type of work in the grades, which includes all basic school subjects.

4. The course of study for elementary schools provides guidance for teachers in organizing the daily schedule and methods of procedures according to the unit plan of teaching, involving all school subjects.

5. The emphasis in elementary grade work is on individual instruction and individual pupil progress rather than on the teaching of separate school subjects.

6. The majority of elementary schools provide for the *working together of one group of pupils and the teacher* in all basic school subjects, and for the entire school term.

7. This plan of group work enables a classroom teacher to:

- a. gain a better knowledge and understanding of the individual pupil and his needs and interests.

- b. adapt the school experiences to the pupil's needs and develop the curriculum according to capacities and abilities of the pupils, thereby insuring success for each pupil.
- c. help the pupil see the relationships of subject matter and to develop the habit of organizing related ideas from many fields of learning.
- d. provide a flexible program of daily work and a pupil progress scheme suited to the needs of the individual pupil.

Daily Schedules and Program Making

The making of the daily program or schedule is one of the most important tasks of every teacher. The program of a school reflects the philosophy of education and the extent to which a teacher has analyzed her work. A program must be adapted to the particular situation in which the teacher finds herself, and it cannot be turned out "ready made." A good school program provides an appropriate place for the various activities to be undertaken as a part of the life of the school, and it encourages related and purposeful work toward desirable educational goals. It provides for individual needs throughout the day and must at the same time meet the legal requirements of the State.

The modern curriculum is adapted to the needs of the individual child. Program making cannot be considered in terms of a day or week only but must take the form of a long time plan with the desired goals clearly defined.

The ability to organize the work of the day and to adjust the schedule to the immediate needs of the program is a part of the growth of teachers.

Important Principles

1. The daily program planned to take care of the daily needs of all pupils must be flexible. If a particular plan requires that more time than usual should be put upon some one phase of the work, this should be done.
2. The children should know that ordinarily periods are set aside for certain purposes and they should help to plan how those periods should be used.
3. The program should be varied from day to day as the occasion demands.
4. The schedule should take into account four divisions of the work—the large unit, drill, appreciation subjects, health and recreation.
5. Because of the inter-relation of subject matter, it is not possible to confine all of the work of any one division to a definite time allotment each day. The activities are sometimes over-lapping in content and include health work which ordinarily would be taken care of at a separate period from most activities.
6. In so far as possible, provision must be made on the schedule for all four phases of the development of the work program.
7. A suggested time allotment is important and should be indicated on the daily schedule, but this, too, varies with the work of each day, and the time should not be fixed.

Explanation of the Four Divisions and Time Allotments

I. THE MAJOR UNIT (50-90 MINUTES)

In the early grades the first part of the day has been found well suited to this part of the work. The children come to school in the morning eager to

show, or to talk about, what they have brought for the work of the day, and it seems well to take advantage of this interest and enthusiasm and let them go to work upon entering the room. The teacher is then able to go from one to another as they begin their work and give the individual help needed.

The conference period is an important part of this hour. This period will show individual needs. It is a time for making assignments to the individual pupil; problems that have arisen with any members of the group may be presented to the group for discussion. Questions will frequently arise about how to make things, why certain things failed, where to get materials, or needed rules for the work period or on the playground.

In the early grades the period provides much opportunity for oral language, as the children express themselves more freely about the things in which they are interested. The teacher will keep close check on the things that need attention later at the drill period. Blackboard and chart reading will grow out of this period as the children keep the story of their work. In getting this expression from the children, the teacher should work for good statements on the part of the children. They should get the idea that the different statements go to make the story. They should be led to give the more important thing in the story first. This leads to the idea of paragraph sense later on.

In the upper grades the large unit period may have the following divisions:

A Planning Period (30 minutes). At this time there is a general discussion of the work to be done and checking up on what the pupils have accomplished. The pupils will make a definite list of things to be accomplished and then decide upon how they will go about getting these things done. Certain members or committees of the group may assume the responsibility for definite assignments, for finding the answers to certain problems, or for planning and constructing some phases of the unit that is being carried on by the group. This pupil or committee should then be responsible to the group for the accomplishment of the part of the work they agree to do.

A Study Period (1 hour). This is the research or finding-out period, when children search for information to answer questions that have arisen in arithmetic, history, language, and so on. The teacher has an opportunity to work with individual pupils and with groups to explain the information necessary to serve present needs. The needs that arise in the study period are made note of for emphasis in the drill period at another time.

Activity Period (1 hour). This period might include activities in industrial and fine arts, making books, posters, clay work, making costumes for a play, excursions into the community—all kinds of hand work, or whatever is needed to carry out the activity or problem being considered by the group at the time.

Conference Period (20 minutes). At this time problems that have arisen with any member of the group may be presented to the entire group for discussion and help in solving. The group discusses the progress being made on the unit that is being carried on in the room and makes suggestions for further development of the work. A question may come up on how to make things, or where to get the materials. It may be necessary for the group to consider rules for the government of the group, or for use of the playground apparatus, or of the gymnasium, and so on.

II. DRILL PERIOD

In this period attention should be given to the mastery of the tool subjects, need for which has been developed in the activity work of the group. The drill may be with individuals or with groups and will include penmanship, spelling, number facts, mechanics of reading, music, and the use of reference materials. This should be a teaching period for teachers as well as a learning period for pupils.

III. APPRECIATION PERIOD

For the appreciation and enjoyment of music, literature, dramatization, art, folk dances, nature study, a definite period should be provided. This is a period to enjoy the aesthetic and to do creative and constructive work.

IV. HEALTH AND RECREATION PERIOD

Definite health lessons and health practices should be taught. Work in physical education—the work of the nurse in weighing, measuring, and making inspection of the children—will come in at this time. Health is a primary object of education, and it is essential that sufficient relaxation and play shall be provided.

Free Time. This should be a time when the individual child or small groups of children may have an opportunity to do the various things for which they are responsible to the whole group, or to devote themselves to interests that need further time and study. An abundance of materials should be provided in order that the best use may be made of this period. It is the most difficult period for the teacher to plan for and use wisely.

SUGGESTED DAILY SCHEDULE

Primary Grades, 1-3

- 8:30- 8:45. Preparations for the work of the day
 - a. Devotional exercises
 - b. Check on attendance and health
- 8:45- 9:45. Major unit, including work in the language arts, social studies, elementary science, and arithmetic as the nature and scope of the unit of study dictate
 - a. Planning period
 - b. Activity period
 - c. Conference period—reports, discussion, evaluation, and assignments
- 9:45-10:00. Tip-toe recess and mid-morning lunch
(To the teacher this period is part of the health education program. She sees that children have clean hands and suitable food, such as milk or fruit, for this occasion.)
- 10:00-10:40. Drill period for mastery of tool subjects
 - a. In groups (10-15 pupils)
 - b. Attention to individual needs
- 10:40-11:10. *Physical education (outdoors when possible)
 - a. Directed games
 - b. Supervised play
- 11:10-11:40. Library period
 - a. Free reading
 - b. Story telling
 - c. Reports of interesting findings
- 11:40-12:00. Music

*Provision for free time for pupils should be made, as no class should be teacher-directed during the entire day, although teacher guidance is acceptable at all times. See Division IV, Health and Recreation.

- 12:00-12:20. Supervised lunch in the cafeteria or class room
- 12:20-12:50. Free play
- 12:50- 1:15. Quiet period. This period may be used for rest, relaxation, nap, quiet reading, or other activities of quiet nature.
- 1:15- 1:45. Number work
- 1:45- 2:15. Appreciation period
 - a. Art
 - b. Music
 - c. Literature
 - d. Creative work—individual or group contributions
- 2:15. Dismissal

SUGGESTED DAILY SCHEDULE

Grammar Grades, 4-7

- 8:30- 8:45. Devotional exercises, health and attendance check
- 8:45- 9:45. Major unit—The activities of this period should be purposeful, meaningful, and cut across conventional subject matter lines. Above all there should be some integrating force.
 - a. Planning period
 - b. Work period
 - c. Reports of work and clean up
- 9:45-10:15. Physical education*
- 10:15-10:30. Mid-morning lunch*
- 10:30-11:40. Drill period—emphasis on group and individual needs in the tool subjects as revealed in the major unit study
- 11:40-12:00. Health and Safety
- 12:00-12:20. Supervised lunch in classroom or cafeteria*
- 12:20-12:50. Free play
- 12:50- 1:30. Library period
(Where a central library large enough to seat the entire class is available, the group with its teacher should go there for this period, otherwise maximum use should be made of the grade library. Book reports, library lessons, story telling, reference work, etc., may take the place of leisure reading during some of the library periods.)
- 1:30- 2:15. Social studies—history, civics, geography. The activities of this period may be subordinate to the major unit and tied up with the central theme.
- 2:15- 2:20. Intermission—relief
- 2:20- 2:45. Appreciation period—music, art, natural science
- 2:45- 3:10. Arithmetic
- 3:10- 3:30. Planning period—directed study, special assignments

WHEN TO EMPLOY A SPECIAL TEACHER

This depends upon several factors—size of school, dominant philosophy of the community and the local faculty, and State policies. As a general rule, any school having more than seven good classroom teachers, in adding other faculty personnel, should consider the advisability of selecting a person holding a certificate in a *special field*,—art, music, or physical education, for example.

The special teacher, generally speaking, should have had training in and experience with the curriculum as a whole for the group with which she

*Teachers should use the opportunities for teaching good health habits which the physical education and lunch periods provide. Proper diet and cleanliness should be experienced during lunch periods; safety and moderation during the physical education and free play periods. Objectionable practices such as the sale of bottled carbonic beverages by the school and the playing of hazardous games should be abolished.

Provision for free time for pupils should be made as no class should be teacher-directed during the entire day, although teacher guidance is acceptable at all times. See Division IV, Health and Recreation.

intends to work. This is to say, for instance, that the special art teacher needs to be familiar with the content scope of the natural and social sciences, so as to be particularly aware of the possibilities in art expressions which the experiences in these fields, properly guided, will necessarily encourage.

The special teacher should also be selected because of her ability to lead and help other fellow-teachers and children in a special field such as the graphic arts, dramatic art, or physical education.

SECONDARY SCHOOLS

General Suggestions

1. *Selecting a Curriculum.* Schools having from 3 to 6 teachers should select the curriculum best adapted to their needs and follow it. If there is only one high school teacher not over two years of high school work may be offered. In this case the first two years of the curriculum for a three-teacher high school on page 92 should be followed. If there are two high school teachers, three years of the curriculum for a three-teacher school may be given.

2. *Follow Curriculum Adopted.* Once a particular curriculum is introduced a change to another should not be made without the approval of the county superintendent and notification of the Director of Instructional Service.

3. *Continue Language Adopted.* Three- and four-teacher high schools which offer two units of only one foreign language must not offer Latin one year and French the next; the language adopted must be continued.

4. *Employment of Teachers.* Teachers should be employed in accordance with the particular subject combinations outlined in the "Suggested Organization" following each curriculum.

5. *Principal Recommends Teachers.* Teachers should be employed by the school committee only upon recommendation of the principal and approval of the superintendent.

6. *Teaching Load.* No teacher should be assigned more than six periods a day nor less than five, but each teacher should be assigned some duty every period during the day.

7. *Delegate Direction Extra-Curricular Activities.* Principals should delegate the direction of extra-curricular activities to teachers so as to make time for supervision.

8. *Substitute Teachers.* Substitute teachers should be engaged by the principal instead of the teachers for whom they substitute. Their salary should be determined by training and experience, and be conditioned by such further rules and regulations as may be set up by the county board of education or the State School Commission.

9. *Plan for Period of Years.* Both principal and teachers should make plans for the school which cover a period of years rather than terminate on Commencement day. If this were done there would be a marvelous transformation in the appearance of school buildings and grounds.

10. *Classrooms for Particular Subjects.* All of a particular subject should be taught in the same room. Supplementary materials should be supplied in order to give the child the apperceptive basis for study. The history room,

for instance, should be well provided with maps, the English room with pictures of great writers, etc.

11. *Finding Rooms for Library and Laboratory.* Inadequate building space for the library and laboratory in small systems which are over-crowded can be solved, in many instances. Take, for example, a four-teacher high school which has available only four classrooms and is confronted with the necessity of scheduling the classes of four different grades and, in addition, providing for library and laboratory work. Obviously, there would be no solution if one were to adhere to the traditional practice of having all the subjects of each grade in the same room throughout the day; for then a room would be used for recitation purposes for only four-sevenths of the day, assuming a 7-period day and a 4-subject pupil. But if this system were to schedule on the following basis there would be no difficulty arising from lack of space: in room No. 1, teach the four classes of English and two of Foreign Language, total six classes; in room No. 2, teach the three classes of Mathematics and four of History—total, 7 classes; in room No. 3, have lecture and laboratory for the sciences (equip with tables and chairs or stools, not desks or arm chairs); in room No. 4, have reading (reference books and periodicals) and study hall (provide standard shelving, tables, and chairs, not desks).

12. *When to Divide a Class.* Classes with an average daily attendance of over 35 should be taught in 2 or more sections. In science laboratory work approximately 20 pupils is preferable.

13. *Pupil Load.* No pupil should be allowed to take over four subjects unless he is in the upper decile of his class or is both over-aged and intelligent. As a rule, it is better to provide enrichment than to accelerate.

14. *How to Study.* Whatever the type of school or organization, definite provision should be made for teaching children how to study and causing them to do more of it.

15. *The Hour Period.* In no case should recitation periods be less than 45 minutes in the clear. Schools wishing to organize on the hour-period supervised study plan may do so, provided the principal and the teachers are qualified to operate on such a basis and it is approved by the county superintendent. Under this plan there should be at least a 6-hour period day, one of which may be used for extra-curricular activities.

16. *Credit for Extra-Curricular Activities.* If unit credit is to be allowed for any extra-curricular activity, it should be given in excess of the 16 basic units required for graduation.

17. *Admission of Pupils from Other Schools.* Pupils should not be admitted from neighboring schools on "face value." The basis for admission should be a bonafide transcript or entrance examination. In estimating the value of a transcript, a unit's credit should be given on the basis of 120 clock hours of satisfactory recitation work. (For explanation of a "unit" see p. 28.) Uniform transcript blanks furnished by the State may be had upon application to the superintendent.

18. *Plane Geometry Elective.* Although plane geometry is elective, pupils should be encouraged to take it if they wish to enter a college which requires it.

19. *Guidance and Vocational Information.* In electing studies, pupils

should consult the home room teacher, principal, and parents. This is a matter for which ample time should be given. It should never be deferred until the opening day of school.

20. *Registration of Pupils.* The best time to register pupils for the fall term is in the spring about a month before commencement. The registration card for each pupil should show the subjects he is now taking and the ones he elects, specifying the number of room and period each will come. Adjustments due to failure in particular subjects can be worked out in the summer.

21. *Graduation and College Entrance Requirements.* Acquaint the pupils with the requirements for graduation and with entrance requirements of higher institutions in which they are likely to be interested. A definite statement of graduation requirements accompanies each curriculum.

22. *Vocational Subjects.* For particulars relative to the organization of courses in agriculture and vocational home economics, write Director, Division Vocational Education, Raleigh, N. C.

23. *Daily Schedule for Irregulars.* The daily schedule should have no conflicts for regular pupils. Sometimes in small systems conflicts for irregulars are inevitable. In such instances it is best, of course, to serve the majority. But in schools large enough to have two sections or more of any classes, schedules can be made which will care for everybody.

Suggested Curricula, Organizations and Schedules

The curricula suggested for high schools ranging from three to six teachers have been revised in accordance with recent changes made in the Course of Study and textbook adoptions. A plan of organization is suggested for each curriculum. The revised curricula will meet the needs of the great majority of the high schools in the State. In high schools having more than six teachers the needs of such schools are to be met by the addition of new lines of instruction; for example, the introduction of trades, music, fine and industrial arts, and physical education, each calling for a teacher of high special training. The following organization shows the constants and electives for any size of school. This should be considered in conjunction with the special curricula given herein.

HIGH SCHOOL ORGANIZATION SHOWING CONSTANTS AND ELECTIVES

<i>First Year</i>	<i>Second Year</i>
1. English I	1. English II
2. Mathematics I—General Mathematics	2. Science II—Biology
3. History I—Citizenship	3. *Mathematics II—Algebra or General Mathematics
Elect One:	Elect One:
Science I—General	History II—World
Home Economics I	Home Economics II
Agriculture I	Agriculture II
Industrial Arts	Industrial Arts
Latin I	Latin II
Art	General Business Training
Music	Art
Other electives	Music
	Other electives

*When the number of students in Mathematics II, Algebra or General Mathematics, given in the ninth grade, makes it necessary to divide the class into two sections, the students in one section may be allowed to take General Business Training.

Third Year

1. English III
2. History III—United States
- 3.**Foreign Language
Elect One:
Science III—Chemistry
Geography
Mathematics III—Plane
Geometry
Home Economics III
Agriculture III
Other electives, including Business Education. See pp. 9-10, Publication No. 187, "Course of Study in Business Education"

Fourth Year

1. English IV
- 2.**Foreign Language
Elect Two:
History IV—Economics and Sociology
Science IV—Physics
Science III—Chemistry
Mathematics IV—Two half unit courses in Business Arithmetic, Algebra, Solid Geometry, Trigonometry
Agriculture IV
Other electives, including Business Education

SUGGESTED TIME SCHEDULES

I. Fifty Minute Period (45 Min. net)

- 8:30- 8:35 Home Room
 8:40- 9:25 First Period
 9:30-10:15 Second Period
 10:20-10:50 Activity Period
 1 Day—Home Room and Guidance
 1 Day—Assembly
 1 Day—Clubs
 2 Days—Health and Physical Education
 10:55-11:40 Third Period
 11:45-12:30 Fourth Period
 12:30- 1:00 Lunch
 1:05- 1:50 Fifth Period
 1:55- 2:40 Sixth Period
 2:45- 3:30 Seventh Period

II. Hour Period (55 Min. net)

- 8:30- 8:35 Home Room
 8:35- 9:35 First Period
 9:35-10:35 Second Period
 10:35-11:35 Third Period
 11:35-12:05 Activity Period
 1 Day—Home Room and Guidance
 1 Day—Assembly
 1 Day—Clubs
 2 Days—Health and Physical Education
 12:05-12:35 Lunch
 12:35- 1:35 Fourth Period
 1:35- 2:35 Fifth Period
 2:35- 3:35 Sixth Period

III. Four Hour and Two 50-Minute Periods

- 8:30- 8:45 Home Room
 8:45- 9:45 First Period
 9:45-10:45 Second Period
 10:45-11:35 Third Period
 11:35-12:25 Fourth Period
 12:25- 1:00 Lunch
 1:00- 2:00 Fifth Period
 2:00- 2:30 Activity Period
 1 Day—Home Room and Guidance
 1 Day—Assembly
 1 Day—Clubs
 2 Days—Health and Physical Education
 2:30- 3:30 Sixth Period

**Students may be exempted from the requirement of two units in foreign language for graduation from high school in the following ways:

1. By offering four units in Agriculture.
2. By completing the two year course in Commercial Education in the tenth and eleventh grades.
- 3a. By offering two units of Home Economics plus three units of science—General Science, Biology, Chemistry, and Physics, making a total of five units.
- 3b. By offering three units of credit in Home Economics plus Biology and Chemistry, making a total of five units.
- 3c. By offering two units of Agriculture or Industrial Arts plus three units of science—General Science, Biology, Chemistry, Physics, making a total of five units.

I. THREE-TEACHER HIGH SCHOOL

(Average Daily Attendance, 60 to 84)

A. Suggested Four-Year Curriculum

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			Mathematics II—Algebra or General Mathematics.....	5	5
Mathematics.....	5	5	History II—World.....	5	5
History I—Citizenship.....	5	5	Science II—Biology.....	7	5
Science I—General.....	7	5			
	22	20		22	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Foreign Language I.....	5	5	Science IV—Physics.....	7	5
Elective (one):			Foreign Language II.....	5	5
Mathematics III—					
Geometry.....	5	5			
Geography.....	5	5			
Science III—Chemistry	7	5			
	20 or 22	20		22	20

NOTE: Chemistry and Physics may be offered in alternate years or Chemistry may be offered in place of Physics in the fourth year. Every school must offer either Chemistry or Physics.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I.....	5	History I.....	5
English II.....	5	History II.....	5
English III.....	5	History III or IV.....	5
English IV.....	5	Mathematics I.....	5
Foreign Language I.....	5	Mathematics II.....	5
Foreign Language II.....	5	Mathematics III.....	5
	30		30
<i>Teacher C</i>	<i>Periods Per Week</i>		
Science I.....	7		
Science II.....	7		
Science III or IV.....	7		
Geography.....	5		
	26		

One of the teachers employed should have specialized in English and Foreign Language; one in History and a second field.

A high school of this size should offer only two years of *one* foreign language.

Requirements for graduation: English 4; Mathematics 2; Social Studies 4; Science 3; Foreign Language 2; Elective 1. Total, 16 units.

C. Suggested Daily Schedule

PERIODS	TEACHER A	TEACHER B	TEACHER C
8:30- 8:35	HOME ROOM		
8:40- 9:25	Foreign Language I	History II	Science I Recitation, M. W. F. Laboratory, T. T.
9:30-10:15	English III	Mathematics II	Science I Laboratory, T. T.
10:20-10:50	ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Assembly; 1 Day—Clubs; 2 Days—Physical and Health Education.		
10:55-11:40		History I	Science III or IV Recitation, M. W. F. Laboratory, T. T.
11:45-12:30	English II	Mathematics I	Science III or IV Laboratory, T. T.
12:30- 1:00	LUNCH PERIOD		
1:05- 1:50	English I	History III or IV	Science II Recitation, M. W. F. Laboratory, T. T.
1:55- 2:40	Foreign Language II		Science II Laboratory, T. T.
2:45- 3:30	English IV	Mathematics III	Geography

II 4-A FOUR-TEACHER HIGH SCHOOL

(Average Daily Attendance, 85 to 119)

A. Suggested Four-Year Curriculum

(Without Home Economics, Agriculture, or Industrial Arts)

This curriculum is the same as that suggested for the three-teacher high school. The additional teacher is necessary to take care of the increased enrollment. The offering can be no larger but the school may be organized somewhat differently.

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			Mathematics II—Algebra or General Mathematics.....		
Mathematics.....	5	5		5	5
History I—Citizenship.....	5	5	History II—World.....	5	5
Science I—General.....	7	5	Science II—Biology.....	7	5
	22	20		22	20

<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Foreign Language I.....	5	5	Science IV—Physics.....	7	5
Elective (one):			Foreign Language II.....	5	5
Mathematics III—					
Geometry.....	5	5			
Geography.....	5	5			
Science III—Chemistry.....	7	5			
	20 or 22	20		22	20

NOTE: Chemistry and Physics may be offered in alternate years or Chemistry may be offered in place of Physics in the fourth year.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I.....	5	History I.....	5
English II.....	5	History II.....	5
English III.....	5	History III.....	5
English IV.....	5	History IV.....	5
Foreign Language I.....	5	Geography.....	5
Foreign Language II.....	5		
	30		25
<i>Teacher C (Principal)</i>	<i>Periods Per Week</i>	<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I.....	5	Science I.....	7
Mathematics II.....	5	Science II.....	7
Mathematics III.....	5	Science III.....	7
		Science IV.....	7
	15		28

Requirements for graduation: English 4; Mathematics 2; Social Studies 4; Science 3; Foreign Language 2; Elective 1. Total, 16 units.

C. Suggested Daily Schedule

PERIODS	TEACHER A	TEACHER B	TEACHER C	TEACHER D
8:30- 8:35	HOME ROOM			
8:40- 9:25	English III	History II		Science I Recitation, M. W. F. Laboratory, T. T.
9:30-10:15	Foreign Language II		Mathematics II	Science I Laboratory, T. T.

10:20-10:50 ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs;
1 Day—Assembly; 2 Days—Physical and Health Education.

10:55-11:40	English IV	History I	Mathematics III	Science II Recitation, T. T. F. Laboratory, M. W.
11:45-12:30		History III	Mathematics I	Science II Laboratory, M. W.

12:30- 1:00

LUNCH PERIOD

1:05- 1:50	English II	Geography		Science IV Recitation, M. T. T. Laboratory, W. F.
1:55- 2:40	Foreign Language I			Science IV Laboratory, W. F. Science III Laboratory, T. T.
2:45- 3:30	English I	History IV		Science III Laboratory, T. T. Recitation, M. W. F.

D. Suggested Daily Schedule—Hour Period

PERIODS	TEACHER A	TEACHER B	TEACHER C	TEACHER D
8:30- 8:35 HOME ROOM				
8:35- 9:35	English III	History II		Science I
9:35-10:35	Foreign Language II		Mathematics II	Science III
10:35-11:35	English IV	History I	Mathematics III	Science II

11:35-12:05 ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs;
1 Day—Assembly; 2 Days—Physical and Health Education.

12:05-12:35

LUNCH PERIOD

12:35- 1:35	English II	History III	Mathematics I	
1:35- 2:35	English I	Geography		Science IV
2:35- 3:35	Foreign Language I	History IV		

III 4-B FOUR-TEACHER HIGH SCHOOL

(Average Daily Attendance, 85 to 119)

A. Suggested Four-Year Curriculum

(Including Home Economics)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			Mathematics II—Algebra		
Mathematics.....	5	5	or General Mathema-		
History I—Citizenship...	5	5	tics.....	5	5
Home Economics I.....	10	5	Science II—Biology.....	7	5
or			Home Economics II.....	10	5
Science I—General.....	7	5	or		
			History II—World.....	5	5
	22 or 25	20		22 or 27	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United			History IV—Economics		
States.....	5	5	and Sociology.....	5	5
*Foreign Language I.....	5	5	Science IV—Physics.....	7	5
Elective (one):			*Foreign Language II.....	5	5
Mathematics III—					
Geometry.....	5	5			
Geography.....	5	5			
Science III—Chemis-					
try.....	7	5			
	20 or 22	20		22	20

NOTE: Chemistry and Physics may be offered in alternate years or Chemistry may be offered in place of Physics.

*Pupils offering two years of Home Economics, and Biology, Chemistry and Physics may be excused from the foreign language requirement.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B (Principal)</i>	<i>Periods Per Week</i>
English I.....	5	History I.....	5
English II.....	5	History II.....	5
English III.....	5	History III.....	5
English IV.....	5	History IV.....	5
Foreign Language I.....	5		
Foreign Language II.....	5		
	30		20
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I.....	5	Science II.....	7
Mathematics II.....	5	Home Economics I.....	10
Mathematics III.....	5	Home Economics II.....	10
Science I.....	7		
Science III or IV**.....	7		
Geography.....	5		
	34		27

**To be given in alternate years.

Requirements for graduation: English 4; Mathematics 2; Foreign Language 2; Social Studies 3; Science 2; Elective 3. Total, 16 units.

IV. 4-C FOUR-TEACHER HIGH SCHOOL

(Average Daily Attendance, 85 to 119)

A. Suggested Four-Year Curriculum

(Including Two Years of Agriculture)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			Mathematics II—Algebra		
Mathematics.....	5	5	or General Mathe-		
History I—Citizenship....	5	5	matics.....	5	5
Agriculture I.....	10	5	Science II—Biology.....	7	5
or			Agriculture II.....	10	5
Science I—General.....	7	5	or		
			History II—World.....	5	5
	22 or 25	20		22 or 27	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United			History IV—Economics		
States.....	5	5	and Sociology.....	5	5
*Foreign Language I.....	5	5	Science IV—Physics.....	7	5
Elective (one):			*Foreign Language II.....	5	5
Mathematics III—					
Geometry.....	5	5			
Geography.....	5	5			
Science III—Chemis-					
try.....	7	5			
	20 or 22	20		22	20

NOTE: Chemistry and Physics may be offered in alternate years or Chemistry may be offered in place of Physics.

*Pupils offering two years of Agriculture, and Biology, Chemistry and Physics may be excused from the foreign language requirement.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B (Principal)</i>	<i>Periods Per Week</i>
English I.....	5	History I.....	5
English II.....	5	History II.....	5
English III.....	5	History III.....	5
English IV.....	5	History IV.....	5
Foreign Language I.....	5		
Foreign Language II.....	5		
	30		20
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I.....	5	Science I.....	7
Mathematics II.....	5	Agriculture I.....	10
Mathematics III.....	5	Agriculture II.....	10
Science II.....	7		
Science III or IV**.....	7		
Geography.....	5		
	34		27

**To be given in alternate years.

Requirements for graduation: English 4; mathematics 2; Foreign Language 2; Social Studies 3; Science 2; Elective 3. Total 16 units.

V. 5-A FIVE-TEACHER HIGH SCHOOL

(Average Daily Attendance, 120 to 154)

A. Suggested Four-Year Curriculum

(Without Home Economics, Agriculture, or Industrial Arts)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			*Mathematics II—Algebra		
Mathematics.....	5	5	or General Mathe-		
History I—Citizenship.....	5	5	matics.....	5	5
Science I—General.....	7	5	Science II—Biology.....	7	5
or			History II—World.....	5	5
Latin I.....	5	5	or		
			Latin II.....	5	5
	20 or 22	20		22	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United			Electives (Three):		
States.....	5	5	History IV—Economics		
Electives (two):			and Sociology.....	5	5
Mathematics III—			Science IV—Physics.....	7	5
Geometry.....	5	5	Mathematics IV.....	5	5
Geography.....	5	5	Latin IV.....	5	5
Science III—Chemis-			Second Foreign		
try.....	7	5	Language.....	5	5
Latin III.....	5	5			
Second Foreign					
Language.....	5	5			
	20 or 22	20		20 or 22	20

*When Mathematics II has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English II.....	5	Latin I.....	5
English III.....	5	Latin II.....	5
English IV.....	5	Latin III or IV**.....	5
Foreign Language I.....	5	English I (2 sections).....	10
Foreign Language II.....	5		
	25		25
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D (Principal)</i>	<i>Periods Per Week</i>
History I (2 sections).....	10	Mathematics I (2 sections).....	10
History II.....	5	Mathematics II.....	5
History III.....	5	Mathematics III or IV**.....	5
History IV.....	5		
Geography.....	5		
	30		20

**To be offered in alternate years.

<i>Teacher E</i>	<i>Periods Per Week</i>
Science I.....	7
Science II.....	7
Science III.....	7
Science IV.....	7

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Principals and teachers should assist pupils in choosing electives. It is increasingly necessary in this curriculum since the range of electives is wider than in smaller schools.

Requirements for graduation: English 4; Mathematics 2; Social Studies 2; Science 2; Foreign Language 2; Elective 4. Total, 16 units.

C. Suggested Daily Schedule

PERIOD	TEACHER A	TEACHER B	TEACHER C	TEACHER D	TEACHER E
8:30- 8:35	HOME ROOM				
8:40- 9:25	English II			Mathematics III or IV	Science I Recitation, M.W.F. Laboratory, T. T.
9:30-10:15	English III	Latin II	History IV		Science I Laboratory, T. T.
10:20-10:50	ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs; 1 Day—Assembly; 2 Days—Physical and Health Education.				
10:55-11:40	English IV	Latin I	History III		Science II Recitation, M.W.F. Laboratory, T. T.
11:45-12:30		Latin III or IV	History I-A	Mathematics I-B	Science II Laboratory, T. T.
12:30- 1:00	LUNCH PERIOD				
1:05- 1:50	Foreign Language II	English I-A	History II		Science III Recitation, M.W.F. Laboratory, T. T.
1:55- 2:40		English I-B	Geography	Mathematics II	Science III Laboratory, T. T. Science IV Laboratory, M. W.
2:45- 3:30	Foreign Language I		History I-B	Mathematics I-A	Science IV Laboratory, M. W. Recitation, T.T.F.

D. Suggested Daily Schedule—Hour Period

PERIOD	TEACHER A	TEACHER B	TEACHER C	TEACHER D	TEACHER E
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8:30- 8:35

HOME ROOM

8:35- 9:35	English III	Latin II	History IV		Science I
9:35-10:35	English IV	Latin I	History III	Mathe- matics I-B	Science II
10:35-11:35	English II	Latin III or IV	Geography	Mathe- matics I-A	

11:35-12:05 **ACTIVITY PERIOD:** 1 Day—Home Room and Guidance; 1 Day—Clubs;
1 Day—Assembly; 2 Days—Physical and Health Education.

12:05-12:35

LUNCH PERIOD

12:35- 1:35	Foreign Language II		History II		Science III
1:35- 2:35	Foreign Language I	English I-B	History I-A		Science IV
2:35- 3:35		English I-A	History I-B	Mathe- matics III or IV	

VI. 5-B FIVE-TEACHER HIGH SCHOOL

(Average Daily Attendance, 120 to 154)

A. Suggested Four-Year Curriculum

(Including Home Economics)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			**Mathematics II—Alge- bra or General Mathe- matics.....	5	5
Mathematics.....	5	5	Science II—Biology.....	7	5
History I—Citizenship.....	5	5	History II—World.....	5	5
Science I—General.....	7	5	or		
or			Home Economics II.....	10	5
Home Economics I.....	10	5			
	22 or 25	20		22 or 25	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
*Foreign Language I.....	5	5	*Foreign Language II.....	5	5
Elective (one):			Science IV—Physics.....	7	5
Mathematics III— Geometry.....	5	5	or		
Geography.....	5	5	Mathematics IV.....	5	5
Science III—Chemis- try.....	7	5			
	20 or 22	20		20 or 22	20

*Pupils offering two years of Home Economics and Biology, Chemistry and Physics may be excused from the foreign language requirement.

**When the Mathematics II class has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English 1 (2 sections).....	10	Science I.....	7
English II.....	5	Science III.....	7
English IV.....	5	Science IV.....	7
Foreign Language I.....	5	Geography.....	5
Foreign Language II.....	5		
	<hr/> 30		<hr/> 26
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D (Principal)</i>	<i>Periods Per Week</i>
History I (2 sections).....	10	Mathematics I (2 sections).....	10
History II.....	5	Mathematics II.....	5
History III.....	5	Mathematics III or IV#.....	5
History IV.....	5		
English III.....	5		
	<hr/> 30		<hr/> 20
<i>Teacher E</i>	<i>Periods Per Week</i>		
Science II.....	7		
Home Economics I.....	10		
Home Economics II.....	10		
	<hr/> 27		

#Given in alternate years.

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

VII. 5-C FIVE-TEACHER HIGH SCHOOL

(Average Daily Attendance, 120 to 154)

A. Suggested Four-Year Curriculum

(Including Four Years of Agriculture)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			**Mathematics II—Algebra or General Mathematics.....	5	5
Mathematics.....	5	5	Science II—Biology.....	7	5
History I—Citizenship.....	5	5	History II—World.....	5	5
Science I—General.....	7	5	or		
or			Agriculture II.....	10	5
Agriculture I.....	10	5			
	<hr/> 22 or 25	<hr/> 20		<hr/> 22 or 25	<hr/> 20

<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Agriculture III.....	10	5	Agriculture IV.....	10	5
or			or		
*Foreign Language I.....	5	5	*Foreign Language II.....	5	5
Elective (one):			Science IV—Physics.....	7	5
Mathematics III—			or		
Geometry.....	5	5	Mathematics IV.....	5	5
Geography.....	5	5			
Science III—Chemistry..	7	5			
	20 or 27	20		20 or 27	20

*Pupils offering two units Agriculture plus Biology, Chemistry and Physics, or four units of Agriculture are not required to take Foreign Language.

**When the Mathematics II class has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I (2 sections).....	10	Science I.....	7
English II.....	5	Science II.....	7
English IV.....	5	Science III.....	7
Foreign Language I.....	5	Science IV.....	7
Foreign Language II.....	5	Geography.....	5
	30		33
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D (Principal)</i>	<i>Periods Per Week</i>
History I (2 sections).....	10	Mathematics I (2 sections).....	10
History II.....	5	Mathematics II.....	5
History III.....	5	Mathematics III or IV#.....	5
History IV.....	5		
English III.....	5		
	30		20
<i>Teacher E</i>	<i>Periods Per Week</i>		
Agriculture I and II.....	10		
Agriculture III and IV.....	10		
Shop and Field Projects.....	10		
	30		

#Given in alternate years.

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

VIII. 5-D FIVE-TEACHER HIGH SCHOOL

(Average Daily Attendance, 120 to 154)

A. Suggested Four-Year Curriculum

(Including Home Economics and Agriculture)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			**Mathematics II—Algebra or General Mathematics.....	5	5
History I—Citizenship.....	5	5	Science II—Biology.....	7	5
Home Economics I.....	10	5	Home Economics II.....	10	5
or			or		
Agriculture I.....	10	5	Agriculture II.....	10	5
	25	20		25	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Agriculture III.....	10	5	Agriculture IV.....	10	5
or			or		
*Foreign Language I.....	5	5	*Foreign Language II.....	5	5
Elective (one):			Science IV—Physics.....	7	5
Mathematics III—Geometry.....	5	5	or		
Geography.....	5	5	Mathematics IV.....	5	5
Science III—Chemistry.....	7	5			
	20 or 27	20		20 or 27	20

*Pupils offering two units of Agriculture or Home Economics, plus Biology, Chemistry and Physics or four units of Agriculture may be excused from the foreign language requirement.

**When the Mathematics II class has to be divided into two sections one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I.....	5	History I (2 sections).....	10
English II.....	5	History III.....	5
English III.....	5	History IV.....	5
English IV.....	5	Geography.....	5
Foreign Language I.....	5	English I-B.....	5
Foreign Language II.....	5		
	30		30
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I (2 sections).....	10	Agriculture I and II.....	10
Mathematics II (2 sections).....	10	Agriculture III and IV.....	10
Mathematics III or IV#.....	5	Shop and Field Projects.....	10
Science III or IV#.....	7		
	32		30

#Offered in alternate years.

<i>Teacher E</i>	<i>Periods Per Week</i>
Science II.....	7
Home Economics I.....	10
Home Economics II.....	10
	<hr/> 27

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

IX. 6-A SIX-TEACHER HIGH SCHOOL

(Average Daily Attendance, 155 to 189)

A. Suggested Four-Year Curriculum

(Without Home Economics, Agriculture, or Industrial Arts)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			*Mathematics II—Algebra or General Mathematics.....	5	5
Mathematics.....	5	5	Science II—Biology.....	7	5
History I—Citizenship.....	5	5	History II—World.....	5	5
Science I—General.....	7	5	or		
or			Latin II.....	5	5
Latin I.....	5	5			
	<hr/> 20 or 22	<hr/> 20		<hr/> 22	<hr/> 20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	Electives (three):		
Electives (two):			History IV—Economics and Sociology.....	5	5
Mathematics III—Geometry.....	5	5	Science IV—Physics.....	7	5
Geography.....	5	5	Mathematics IV.....	5	5
Science III—Chemistry.....	7	5	Latin IV.....	5	5
Latin III.....	5	5	Second Foreign Language.....	5	5
Second Foreign Language.....	5	5			
	<hr/> 20 or 22	<hr/> 20		<hr/> 20 or 22	<hr/> 20

*When the Mathematics II class has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I (2 sections).....	10	English II (2 sections).....	10
English III.....	5	Latin I.....	5
English IV.....	5	Latin II.....	5
Foreign Language I.....	5	Latin III.....	5
Foreign Language II.....	5	Latin IV.....	5
	<hr/> 30		<hr/> 30

<i>Teacher C</i>	<i>Periods Per Week</i>
History I (2 sections).....	10
History II.....	5
History III.....	5
History IV.....	5
Geography.....	5
	<hr/> 30

<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I-B.....	5
Mathematics II (2 sections)....	10
Mathematics III.....	5
Mathematics IV.....	5
	<hr/> 25

<i>Teacher E</i>	<i>Periods Per Week</i>
Science I (2 sections).....	14
Science III.....	7
Science IV.....	7
	<hr/> 28

<i>Teacher F (Principal)</i>	<i>Periods Per Week</i>
Science II (2 sections).....	14
Mathematics I-A.....	5
	<hr/> 19

Requirements for graduation: English 4; Mathematics 2; Social Studies 2; Science 2; Foreign Language 2; Elective 4. Total, 16 units.

C. Suggested Daily Schedule

PERIODS	TEACHER A	TEACHER B	TEACHER C	TEACHER D	TEACHER E	TEACHER F
8:30- 8:35	HOME ROOM					
8:40- 9:25	English I-A	Latin II	Geography	Mathematics III	Science IV Recitation, T. T. F. Laboratory, M. W.	Science II-A Recitation, M. W. F. Laboratory, T. T.
9:30-10:15		Latin I	History III	Mathematics II-B	Science IV Laboratory, M. W.	Science II-A Laboratory, T. T.
10:20-10:50	ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs; 1 Day—Assembly; 2 Days—Physical and Health Education.					
10:55-11:40	English I-B	Latin III		Mathematics IV	Science I-A Recitation, T. T. F. Laboratory, M. W.	Science II-B Recitation, M. W. F. Laboratory, T. T.
11:45-12:30	Foreign Language I	Latin IV	History I-B	Mathematics II-A	Science I-A Laboratory M. W.	Science II-B Laboratory T. T.

12:30- 1:00

LUNCH PERIOD

1:05- 1:50	English III	English II-A	History IV		Science I-B Recitation, M. W. F. Laboratory, T. T.	Mathematics I-A
1:55- 2:40	Foreign Language II	English II-B	History I-A		Science I-B Laboratory, T. T. Science III Laboratory, M. W.	
2:45- 3:30	English IV		History II	Mathematics I-B	Science III Laboratory, M. W. Recitation, T. T. F.	

D. Suggested Daily Schedule—Hour Period

PERIODS	TEACHER A	TEACHER B	TEACHER C	TEACHER D	TEACHER E	TEACHER F
8:30- 8:35 HOME ROOM						
8:35- 9:35	English I-A	Latin II	Geography	Mathematics III	Science IV	Science II-A
9:35-10:35	English IV	Latin I	History III	Mathematics II-B	Science I-B	
10:35-11:35	English I-B	Latin III	History II	Mathematics IV		Mathematics I-A

11:35-12:05 ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs;
1 Day—Assembly; 2 Days—Physical and Health Education.

12:05-12:35

LUNCH PERIOD

12:35- 1:35	Foreign Language I	Latin IV	History I-B	Mathematics II-A	Science I-A	Science II-B
1:35- 2:35	English III	English II-A	History IV			
2:35- 3:35	Foreign Language II	English II-B	History I-A		Science III	

X. 6-B SIX-TEACHER HIGH SCHOOL

(Average Daily Attendance, 155 to 189)

A. Suggested Four-Year Curriculum

(With Home Economics and Agriculture)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics—General			**Mathematics II—Algebra or General Mathematics.....	5	5
Mathematics.....	5	5	Science II—Biology.....	7	5
History I—Citizenship.....	5	5	Elective (one):		
Elective (one):			History II—World.....	5	5
Science I—General.....	7	5	Home Economics II.....	10	5
Home Economics I.....	10	5	Agriculture II.....	10	5
Agriculture I.....	10	5			
	22 or 25	20		22 or 27	20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Agriculture III.....	10	5	Agriculture IV.....	10	5
or			or		
*Foreign Language I.....	5	5	*Foreign Language II.....	5	5
Elective (one):			Science IV—Physics.....	7	5
Mathematics III—			or		
Geometry.....	5	5	Mathematics IV.....	5	5
Geography.....	5	5			
Science III—Chemistry.....	7	5			
	20 to 27	20		20 or 25	20

*Pupils offering two units of Home Economics or Agriculture plus Biology, Chemistry and Physics, or four units of Agriculture are not required to take Foreign Language.

**When the Mathematics II Class requires two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English I (2 sections).....	10	History I (2 sections).....	10
English III.....	5	History II.....	5
English IV.....	5	History III.....	5
Foreign Language I.....	5	History IV.....	5
Foreign Language II.....	5	English II.....	5
	30		30
<i>Teacher C (Principal)</i>	<i>Periods Per Week</i>	<i>Teacher D</i>	<i>Periods Per Week</i>
Mathematics I (2 sections).....	10	Science I.....	7
Mathematics II.....	5	Science II.....	7
Mathematics III or IV#.....	5	Science III.....	7
		Science IV.....	7
		Geography.....	5
	20		33

#In alternate years.

<i>Teacher E</i>	<i>Periods Per Week</i>	<i>Teacher F</i>	<i>Periods Per Week</i>
Home Economics I		Agriculture I and II.....	10
(2 sections).....	20	Agriculture III and IV.....	10
Home Economics II.....	10	Shop and Field Projects.....	10
	<hr/> 30		<hr/> 30

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

XI. 6-C SIX-TEACHER HIGH SCHOOL

(Average Daily Attendance, 155 to 189)

A. Suggested Four-Year Curriculum (Including Home Economics)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			**Mathematics II—Algebra or General Mathematics.....		
Mathematics.....	5	5	Science II—Biology.....	5	5
History I—Citizenship.....	5	5	Elective (one):		
Elective (one):			History II—World.....	5	5
Science I—General.....	7	5	Home Economics II.....	10	5
Home Economics I*.....	10	5	Latin II.....	5	5
Latin I.....	5	5			
	<hr/> 20-25	<hr/> 20		<hr/> 20-25	<hr/> 20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United States.....	5	5	History IV—Economics and Sociology.....	5	5
Electives (two):			Electives (two):		
Mathematics III—Geometry.....	5	5	Science IV—Physics.....	7	5
Geography.....	5	5	Mathematics IV.....	5	5
Science III—Chemistry.....	7	5	Latin IV.....	5	5
Latin III.....	5	5	Second Foreign Language.....	5	5
Second Foreign Language.....	5	5			
	<hr/> 20 or 22	<hr/> 20		<hr/> 20 or 22	<hr/> 20

*Pupils offering two units of Home Economics plus Biology, Chemistry and Physics are not required to take foreign language.

**When the Mathematics II class has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English II.....	5	Latin I.....	5
English III.....	5	Latin II.....	5
English IV.....	5	Latin III or IV#.....	5
Foreign Language I.....	5	English I (2 sections).....	10
Foreign Language II.....	5		
	<hr/> 25		<hr/> 25

<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D (Principal)</i>	<i>Periods Per Week</i>
History I (2 sections).....	10	Mathematics I (2 sections).....	10
History II.....	5	Mathematics II.....	5
History III.....	5	Mathematics III or IV#.....	5
History IV.....	5		
Geography.....	5		
	<hr/> 30		<hr/> 20
<i>Teacher E</i>	<i>Periods Per Week</i>	<i>Teacher F</i>	<i>Periods Per Week</i>
Science I.....	7	Home Economics I	
Science II.....	7	(2 sections).....	20
Science III.....	7	Home Economics II.....	10
Science IV.....	7		
	<hr/> 28		<hr/> 30

#Given in alternate years.

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

XII. 6-D SIX-TEACHER HIGH SCHOOL

(Average Daily Attendance, 155 to 189)

A. Suggested Four-Year Curriculum

(Including Four Years of Agriculture)

<i>First Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Second Year</i>	<i>Periods</i>	<i>Credits</i>
English I.....	5	5	English II.....	5	5
Mathematics I—General			**Mathematics II—Alge-		
Mathematics.....	5	5	bra or General Mathe-		
History I—Citizenship....	5	5	matics.....	5	5
Elective (one):			Science II—Biology.....	7	5
Science I—General.....	7	5	Elective (one):		
Agriculture I*.....	10	5	History II—World.....	5	5
Latin I.....	5	5	Agriculture II.....	10	5
			Latin II.....	5	5
	<hr/> 20-25	<hr/> 20		<hr/> 20-25	<hr/> 20
<i>Third Year</i>	<i>Periods</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Periods</i>	<i>Credits</i>
English III.....	5	5	English IV.....	5	5
History III—United			History IV—Economics		
States.....	5	5	and Sociology.....	5	5
Electives (two):			Electives (two):		
Mathematics III—			Science IV—Physics.....	7	5
Geometry.....	5	5	Mathematics IV.....	5	5
Geography.....	5	5	Agriculture IV.....	10	5
Science III—Chemis-			Latin IV.....	5	5
try.....	7	5	Second Foreign		
Agriculture III.....	10	5	Language.....	5	5
Latin III.....	5	5			
Second Foreign					
Language.....	5	5			
	<hr/> 20-27	<hr/> 20		<hr/> 20-27	<hr/> 20

*Pupils offering two units of Agriculture plus Biology, Chemistry and Physics or four units of Agriculture are not required to take Foreign Language.

**When the Mathematics II has to be divided into two sections, one section may take General Business Training.

B. Suggested Organization

<i>Teacher A</i>	<i>Periods Per Week</i>	<i>Teacher B</i>	<i>Periods Per Week</i>
English II.....	5	Latin I.....	5
English III.....	5	Latin II.....	5
English IV.....	5	Latin III or IV#.....	5
Foreign Language I.....	5	English I (2 sections).....	10
Foreign Language II.....	5		
	<hr/> 25		<hr/> 25
<i>Teacher C</i>	<i>Periods Per Week</i>	<i>Teacher D (Principal)</i>	<i>Periods Per Week</i>
History I (2 sections).....	10	Mathematics I (2 sections).....	10
History II.....	5	Mathematics II.....	5
History III.....	5	Mathematics III or IV#.....	5
History IV.....	5		
Geography.....	5		
	<hr/> 30		<hr/> 20
<i>Teacher E</i>	<i>Periods Per Week</i>	<i>Teacher F</i>	<i>Periods Per Week</i>
Science I.....	7	Agriculture I and II.....	10
Science II.....	7	Agriculture III and IV.....	10
Science III.....	7	Shop and Field Project.....	10
Science IV.....	7		
	<hr/> 28		<hr/> 30

#Given in alternate years.

Requirements for graduation: English 4; Mathematics 2; Social Studies 3; Science 2; Foreign Language 2; Elective 3. Total, 16 units.

XIII. NINE TEACHER HIGH SCHOOL

(Including Agriculture, Home Economics and Business Education)

A. Suggested Four-Year Curriculum

<i>First Year</i>	<i>Second Year</i>
English I	English II
Mathematics I—General Mathematics	*Mathematics II—Algebra or General Mathematics
History I—Citizenship	Science II—Biology
Elective (one):	Elective (one):
Agriculture I	Agriculture II
Home Economics I	Home Economics II
Science I—General	History II—World
<i>Third Year</i>	<i>Fourth Year</i>
English III	English IV
History III—United States	History IV—Economics and Sociology
**Foreign Language	**Foreign Language
Elective (one):	Elective (one):
Agriculture III	Science IV—Physics
Mathematics III—Geometry	Mathematics IV
Geography	Agriculture IV
Science III—Chemistry	

*General Business Training may be substituted for Mathematics II.

**Pupils offering four units of Agriculture are not required to take foreign language. Pupils offering two units of Home Economics or Agriculture plus three units of Science (General Science, Biology, Chemistry and Physics) are not required to take foreign language.

COMMERCIAL CURRICULUM

First and second years are the same as regular curriculum but should include General Business Training. See p. 9, Publication 187.

Third Year

English III
History III—United States
Typewriting I
Shorthand I or Bookkeeping I

Fourth Year

English IV
History IV—Economics and
Sociology
Shorthand II or two of the following half unit courses: Salesmanship, Business Law, Advanced Business Information
Typewriting II

B. Suggested Organization (45 minutes net period)

<i>Teacher A</i>	<i>Teacher B</i>	<i>Teacher C</i>	<i>Teacher D</i>	<i>Teacher E</i>
5 English	3 English 2 French	5 Mathematics	5 History	Commercial
<i>Teacher F (Principal)</i>	<i>Teacher G</i>	<i>Teacher H</i>	<i>Teacher I</i>	
3 History	4 Science	2 H. E. 1 Science	3 Agr.	

C. Suggested Daily Schedule

PERIODS	TEACHER A 5 English	TEACHER B 3 English 2 French	TEACHER C 5 Mathematics	TEACHER D 5 Soc. St.	TEACHER E Commercial
8:30 8:45	HOME ROOM				
8:50- 9:35	English II-B	French II	Mathematics III	History III-A	Shorthand II
9:40-10:25	English IV-B		Mathematics II-B		General Business Training
10:30-11:00	ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs; 1 Day—Assembly; 2 Days—Health and Physical Education.				
11:05-11:50		English II-A		History III-B	Typing
11:55-12:40	English IV-A	English III-A	Mathematics IV	Geography	Typing
12:40- 1:10	NOON RECESS				
1:15- 2:00	English I-B	English III-B	Mathematics I-A	History II	Salesmanship, etc.
2:05- 2:50			Mathematics I-B		Shorthand
2:55- 3:40	English I-A	French I		History I-B	Bookkeeping

PERIODS	TEACHER F (Principal) 3 History	TEACHER G 4 Science	TEACHER H 2 Home Economics 1 Biology	TEACHER I 3 Agriculture
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8:30- 8:45

HOME ROOM

8:50- 9:35		Science II-A	Home Economics I	Agriculture I
9:40-10:25	History IV-A	Laboratory Science II-A (Mon. & Wed.)	Home Economics I	Agriculture I

10:30-11:00 ACTIVITY PERIOD: 1 Day—Home Room and Guidance; 1 Day—Clubs;
1 Day—Assembly; 2 Days—Health and Physical Education.

11:05-11:50		Science I	Home Economics II	Agriculture II
11:55-12:40			Home Economics II	Agriculture II

12:40- 1:10

NOON RECESS

1:15- 2:00	History IV-B	Science IV-A		Agriculture III
2:05- 2:50	History I-A	Laboratory Science IV-A (Mon. & Wed.) Laboratory Science IV-B (Tues. & Thur.)	Science II-B	Agriculture III
2:55- 3:40		Science IV-B	Laboratory Science II-B (Mon. & Wed.)	

Some Suggestions Relative to Organization of Twelfth Grade

In order to provide more adequate educational opportunities for high school boys and girls, a twelfth grade may be added to our public schools when sufficient funds become available for this purpose.

If a twelfth grade is provided, the school may be organized according to the 6-3-3 plan—a six year elementary school, a junior high school composed of grades 7, 8 and 9, and a senior high school composed of grades 10, 11, and 12. Or the school may be organized on the 6-2-4 plan, the 7-5 plan, or the 6-6 plan. In a 6-6 plan the elementary school consists of the first six grades and the high school of the last six grades or years.

A curriculum for the high school, including grade 12, has been suggested on p. 113 of this bulletin.

Any curriculum adopted should have as its purpose the meeting of the needs of the boys and girls in the school. These needs will differ somewhat in various communities in the State, and the offerings in any particular school should reflect such needs.

In planning for a twelfth grade it will be necessary to determine the number of teachers which must be employed. This can be calculated on the basis of one teacher for each thirty pupils in average daily attendance. For example: If 60 pupils are promoted from the eleventh to the twelfth grade it will be necessary to provide two teachers over and above the number employed to teach the other high school grades. In some schools it will be possible to absorb a limited number of pupils, but this cannot be done to any considerable extent. The cost of maintaining a twelfth grade can be figured, first of all, in terms of the salary to be paid each teacher employed, plus the usual operating expense.

SUGGESTED CURRICULUM FOR GRADES SEVEN TO TWELVE

Seventh Grade

Required

English
Social Studies—Geography and History
Mathematics
Science and Health
Art—two periods
Public School Music—three periods
Physical Education—three periods

Eighth Grade

Elective

Home Economics—two periods
Agriculture—two periods
Industrial Arts—two periods

Required

English
Mathematics—General Mathematics
Social Studies—Geography and History of the United States and North Carolina
Science—General Science
Physical Education

Elective

Home Economics—three periods
Industrial Arts—three periods
Agriculture—three periods
Music—two periods
Art—two periods

Ninth Grade

Required

English
Social Studies—Citizenship, including a study of vocations
Science—Biology
Physical Education

Elective

Home Economics
Agriculture
Industrial Arts
Mathematics—Algebra or General Mathematics
General Business Training
Music
Art
Latin I

Tenth Grade

Required

English
Social Studies—World History
Physical Education

Elective

Agriculture
Home Economics
French I or other modern language
Latin II
Mathematics—Plane Geometry
Science—Chemistry
Typewriting (For secretarial course only)
Music
Art

Eleventh Grade*Required*

English
 Social Studies—American History
 Physical Education

Elective

English—two of the following half-unit courses: Speech, Dramatics, Journalism, Creative Writing, American or English Literature.
 Mathematics—two of the following half-unit courses: Algebra, Solid Geometry, Trigonometry, Business Arithmetic.
 Science—Chemistry or Physics
 French II or other modern language
 Latin III
 Business Education—See courses outlined in Publication 187, "Course of Study in Business Education for the High Schools of North Carolina"
 Industrial Arts or Vocational Education
 Home Economics—advanced course in home-making for girls
 Agriculture—advanced
 Geography—Commercial Geography
 Music
 Art

Twelfth Grade*Required*

English—two of the following half-unit courses: Speech, Dramatics, Journalism, Creative Writing, American or English Literature
 Social Studies—Economics and Sociology, or Problems of Democracy
 Physical Education

Elective

Agriculture—advanced
 Home Economics—advanced course in home-making for girls
 Mathematics—two of the following half-unit courses: Algebra, Solid Geometry, Trigonometry, Business Arithmetic
 Science—Physics or Senior Science
 French III or other modern language
 Latin IV
 Business Education—See courses outlined in Publication 187
 Industrial Arts or Vocational Education
 Elementary Psychology—one-half unit
 Music
 Art

During the first year or two of the operation of a twelve year program, to take care of pupils who complete the eleven year program as now organized, schools might offer the following:

English—two half-unit courses as suggested above
 Social Studies—one of the following: Problems of Democracy; North Carolina, economic and social; Contemporary Problems
 Mathematics—two half-unit courses as suggested above
 Other subjects suggested as elective in grades ten and eleven above.

Summer High Schools

Some schools in the State operate summer high schools, the sort of school which is run over and above the regular session of eight or nine months, chiefly for the purpose of removing conditions. Where such a school is operated the work should be organized according to the following acceptable standards, so that the proper amount of credit may be given:

Credit for new work. A unit's credit for new work in summer school should be given on a basis of 120 clock hours of recitation work, the same as in regular session. If a student takes one subject for 6 weeks, 5 days per week, 4 hours per day (2 hours each of recitation and supervised study), one unit's credit may be given.

Credit for make-up work. Credit for a subject on which both semesters were failed should be given on the same basis as for new work. In case a pupil has failed only one semester of a subject, he should be allowed to remove the deficiency on a basis of 30 recitation hours' work per half unit of credit. A normal pupil should be able to secure credit for half-units in two subjects in a six-weeks' session. Specifically, if a pupil takes one subject for six weeks, 5 days per week, one hour per day, one-half of a unit's credit may be given. In one summer term pupils should be allowed to take only one new subject or two make-up subjects.

PRACTICES AND PROCEDURES FOR GUIDING THE LEARNING PROCESS

- A. Get acquainted with your group of pupils both as individuals and as a group by:
 1. Visiting the homes of the children before school starts, where at all possible, perhaps the preceding spring.
 2. Finding out the child's health and intellectual condition from as many reliable sources as possible—mother, former teacher, health cards, permanent record cards, nurse, questionnaire to pupils and parents, etc.
 3. Discussing with each child and with the group the likes and dislikes in the content subjects and in life in general.
 4. Finding out his special abilities and interests from his previous school, play, and home experience, especially those which offer much opportunity for original planning and execution through such means as:
 - (a) Previous school reports;
 - (b) informal discussion about vocation, home and community experiences;
 - (c) written biographies (individual) or personality records;
 - (d) discussion of present interests;
 - (e) acquainting the children with the units in the prescribed course of study and with the work other children have done;
 - (f) telling or writing of plans for vocation, recreation, or profession.
 5. Preparing a written record by individuals of what you have found out. For example, in one school each teacher prepares an informal personality study of all of her pupils, which is attached to the annual scholarship record. Here are some samples:

A—does very nice work. He could be an A pupil, I believe, if you can arouse him into taking an active part in all the class work. He seems to do his work simply as a task put before him that he wants

PHILOSOPHY EXPRESSED IN TERMS OF CHARACTERISTICS OF GOOD TEACHING

These characteristics are stated as questions and are to guide the teacher in an evaluation of her own practices.

1. Is my program planned to secure the development of a well-rounded functioning personality for each child?
2. Do I encourage the development and practice of good health habits in all school activities?
3. Is the physical environment of my school, lighting, heating, ventilation, cleanliness, and sanitation, conducive to satisfactory health and school work?
4. Is my school free from emotional strain?
5. Is my school a cooperative, happy working group?
6. Is my attitude one of sympathetic understanding of children's problems?
7. Do I practice democratic relations with the children under my direction?
8. Do I actively subscribe to the theory that school is life—not preparation for life?
9. Do I plan to get the best social development for the child from school life?
10. Do I foster cooperation in all school activities?
11. Do I encourage courtesy in all personal relationships?
12. Do I fully realize that every child should progress, at a rate commensurate with his own capacity and ability?
13. Do I lead each child to participate, making contributions approximate to his ability level?
14. Do I develop standards of acceptable behavior in every situation?
15. Is my most effective teaching done during the pupil-teacher planning period?
16. Do I in practice subscribe to this statement, "Time is more profitably spent on planning than on testing?"
17. Is time allotted for the child to have experiences or activities in relation to his learning?
18. Do I see that educational experiences are teacher-pupil selected and planned so carefully that each child is challenged to greater achievement?
19. Do I provide problems pertinent to the child which stimulate independent thinking as well as group thinking?
20. Do I teach children to use the scientific methods of solving problems?
21. Do I provide frequent periods for evaluation of individual as well as group results, thereby raising pupil standards?
22. Do I individualize the tool subjects of learning so that the child of high intelligence may progress rapidly, working independently, thereby conserving his time for additional worthwhile experiences?
23. Do I surround the child with opportunities for enrichment and the development of appreciations?
24. Do I provide continuous experiences which serve to broaden the child's horizon?
25. Do I provide a wide variety of experiences and materials for exploration and use?
26. Do I provide situations in which every child meets with success more often than failure and in which credit is given for progress made whether the amount is great or small?
27. Do I provide for that form of educational guidance resulting in the development of pupil responsibility and independence?
28. Does every child have an equal opportunity with every other child in his class or group?
29. Do I have and exercise the degree of patience necessary to give each child the time to experience learning rather than to merely accept dictation?
30. Do I make the best possible use of community experiences essential to the development of wholesome school and home relationships?

ADAPTED WITH SLIGHT CHANGES AND ADDITIONS FROM THE CALIFORNIA
JOURNAL OF ELEMENTARY EDUCATION.

to finish as soon as possible, so that he will have some spare time in which to follow his own interests. He likes to read, draw, build models, and collect stamps. Often when you speak to him he seems not to hear because his mind is otherwise occupied. Sometimes he pretends not to hear; then answers you in a loud tone, as if startled, a most annoying habit which I always intended to break and never got around to for having so many other children in worse need of help. Maybe you can shape him up a bit. . . . Home condition not very good. Mother a Frenchwoman—war bride—who has heart trouble and momentarily expects to have a bad attack.

M—will impress you at first as a very slow pupil, but if you will give her a little personal attention and encouragement she will strive mightily and make most satisfying improvements. Seat her near the front as her eyes are poor. Her reading ability is far beyond her grade except in reading for details.

REFERENCES:

- Publication No. 189*, p. 12, State Department of Public Instruction, Raleigh, N. C.
 Moeller and others. *Personal Problems in School Management*, pp. 263-279. Newson.
Growth and Development: The Basis of Educational Programs. Progressive Education Association, 319 West Nineteenth Street, New York City.
 Ingram. *Education of the Slow Learning Child*. World.
 Douglas-Boardman. *Supervision of Secondary Schools*. Houghton.
 Bossing. *Progressive Methods of Teaching in the Secondary School*. Houghton.
 Brooks. *Psychology of Adolescence*. Houghton.
 Harrison. *Reading Readiness*. Houghton.
 Monroe-Backus. *Remedial Reading*. Houghton.

B. Get acquainted with the community by:

1. Interviewing school board members, superintendent, supervisors, principals.
2. Interviewing people of the community.
3. Reading, pictures, maps, graphs, and books on history and industry of community.
4. Writing for information on welfare.
5. Collecting and organizing a library of material about the community.
6. Deciding on high and weak spots culturally and economically, and on what you can do about it in your long and short-time planning.

REFERENCES:

- Publication No. 189*, p. 130. State Department of Public Instruction, Raleigh, N. C.
 Koopman. *Community Interview Survey Schedule*. State Department of Public Instruction. Lansing, Michigan.
 Moeller and others. *Personal Problems in School Management*, pp. 69-80. Newson.
 Porter. *The Teacher and the New School*. World.
 Otto and Hamrin. *Co-Curricular Activities*. Appleton-Century.
 Sorokin. *Social and Cultural Dynamics*. Vol. I. American.

C. Develop several preliminary plans covering large areas of child experiences by:

1. Listing all the centers of interest (child problems, unit of work, etc.) revealed in the above survey in the order in which they touch upon those of the largest number.
2. Comparing with the topics on problems considered socially valuable,

as they have been agreed upon among experienced educators, psychologists, and sociologists.

REFERENCES:

- a. Modern Courses of Study and Curriculum Reports, such as:
 - A *Study in Curriculum Problems of the North Carolina Public Schools*, Publication No. 189. North Carolina State Department of Public Instruction, Raleigh, N. C.
 - A *Guide to Child Development in the Primary Unit*. State Department of Education, Sacramento, California.
 - A *Guide to Child Development in the Intermediate Unit*. State Department of Education, Sacramento, California.
 - Virginia State Course of Study*. State Board of Education, Richmond, Virginia.
- b. Professional books, such as:
 - Schorling-McCluskey. *Education and Social Trends*. World.
 - Thompson. *Training Girls for Arts Vocations*. Clarke, Irwin and Company, Ltd.
 - Tippett. *Schools for a Growing Democracy*. Ginn.
 - Harap and others. *The Changing Curriculum*. Appleton-Century.
 - Rugg. *American Life and the Curriculum*. Ginn.
 - Saucier. *Introduction to Modern Views of Education*. Ginn.
 - Pringle. *The Junior High School*. McGraw.
3. Determining upon a means of evaluating, usually upon certain desirable goals and standards (changes that should occur in the growth of the children as a whole and as individuals).

REFERENCES:

- Units of Subject Matter Chart*. Board of Education, Rochester, N. Y. 10¢.
 - Attainment Chart in Reading*. Board of Education, Rochester, N. Y. 10¢.
 - Oral Composition Scale*. Board of Education, Rochester, N. Y. 10¢.
 - Consumer Buying in the Educational Program of Homemaking*. Office of Education, U. S. Department of Interior. Washington, D. C.
 - Moeller. *Personal Problems in School Management*, pp. 134-186. Newson.
 - Harap and others. *The Changing Curriculum*. Appleton-Century.
 - Croxton. *Science and the Elementary School*. McGraw.
4. Tentatively selecting the unit problem (or problems) and the sub-unit problems most likely to be of interest to the largest number of pupils and which, in the light of the common or greatest good, probably should be raised.
 5. Making a survey and selecting all of the available sources of material for both pupil and teacher which will aid in the solution of the unit problem and sub-problems, such as: (a) Printed materials—pictures, maps, charts, globes, textbooks, supplementary books, pamphlets; (b) people to interview in school, out of school; (c) possible movies, radio programs; (d) places to visit in school, out of school; (e) needed raw materials, illustrative exhibits—ink, crayon, cloth, paper, clay, plaster, water color, soil, metals, and wood.
 6. Determining upon: (a) Several possible approaches or situations which may naturally give use to the problem or sub-problems; (b) possible activities for individuals and groups that may be engaged in;

(c) possible ways of summarizing and organizing into a meaningful whole for the children.

7. Putting the whole into a written form for convenient reference, noting all possible anticipated changes that might occur.

REFERENCES:

- Washburn. *Adjusting the School to the Child*. World.
 Rugg. *The Child Centered School*. World.
 Alexander and others. *Extracurricular Activities for the Elementary School*. Webster.

- D. Test the preliminary plan in actual classroom procedure, always keeping in mind that there may ever arise the need for revising the plan, step by step, as the children participate, developing new angles of interests and experiencing new needs in a real situation, and observing these simple rules of democratic living:
 1. Constantly check self on knowledge of each individual.
 2. Inform children of other children's experiences and what other people think they should know. (Consult *Publication No. 189* and other up-to-date curricula and course of study reports.)
 3. Help them choose the interest to be pursued.
 4. Help children formulate or state problems related to interest. (Objectives.)
 5. Help children make plans (daily, weekly, long-time) for solving problems—giving needed activities, materials, and committees: (a) Through reading; (b) through planning groups; (c) through excursions and exhibits.
 6. Help children choose, appoint, or assign duties.
 7. Help children to organize as they go along and in a final way so as to permit them to see the whole and its parts.
 8. In planning with children develop these types from the sources mentioned above: (a) The yearly plan or skeleton; (b) an orientation or interest-arousing plan for first day; (c) the large unit in area of experience; (d) daily plans (day by day); (e) weekly plans, if needed.
 9. Continue throughout activity to read and study yourself, to open up an ever extending field of personal experience.
- E. Using the Course of Study. (*Publication No. 189*).

The State curriculum report is a skeleton record of what classroom teachers consider their best experiences. Topics, problems, and problem-solving procedures, which have functioned in other situations will not necessarily be useful in future situations. Certainly they may offer suggestions as to possibilities for the future, but while most *child objectives* and *characteristics* are of a universal nature, the immediate materials and activities which satisfy these are determined by local facilities and individual capacities.

It is well to define terms so that we may have a clear conception of the meaning of *integration*:

"The terms correlation and integration are used loosely to cover all sorts of attempts to establish connections between the various subjects of school and college study. More strictly, correlation, fusion, and integration form a series of progressive intensity.

"*Correlation* may be so slight as casual attention to related materials in other subjects, for example, noting while reading the spirited, polished, superficial verse of the Cavalier Poets the ideals and social graces of the cavalier as studied in history. Correlation becomes a bit more intense when it is planned in advance to make the materials of one subject interpret the problems or topics of another.

"*Fusion* designates the combination of two subjects, usually under the same instructor or instructors; supposedly the partners are equal, but usually one dominates and uses the other. One of the most common fusions is the blending of literature and history, the history, which has the more definite outline, usually dominating. Fusion may extend to the combination of a whole group of subjects, for example, literature, music, dancing, architecture, plastic arts, and graphic arts. Such courses are organized by common principles, common themes, or other common elements of the subjects included.

"*Integration* is the unification of all study (and other experience). It comes about, for the most part, not through conscious combining of different subjects or activities but through the initiation of vital activities which reach out into various fields and absorb subject content as the roots of a tree absorb food from the soil—without regard to fences on the surface. Complete integration has not yet been achieved anywhere, and may not be desirable. The closest approaches to complete integration are some of the progressive-school units in which such a purpose as the provision of milk and other needs for the children of an indigent family dominates the work of a group for weeks, subject-matter divisions being ignored and any material used whenever it serves the group purpose."—*An Experience Curriculum in English*. English Monograph No. 4. National Council Teachers of English. Appleton-Century, 1935.

MEASURING PROGRESS

PROMOTION

- A. Survey scholarship record reflected in daily, monthly, and annual reports:
 1. Does it indicate fairly consistent achievement on the part of each individual?
 2. Does it for the most part indicate probable success on the next level?
 3. Determine reasons for any excellencies or failures which appear there.
 - a. Do the failures occur in subjects or activities where lack of ability to study would most likely cause failure?
 - b. What *other* factor or factors (irregular study hours, inadequate background, insufficient time, reading difficulties, poor teaching, lack of books and supplies, attendance, home environment, etc.) probably entered into the failure?
- B. Consider the program of work with which each child has been concerned:
 1. Has it been suited to his interests? His capacities?
 2. Has he formed economical habits of work and study?
 3. Can you yourself through his interests and abilities plan a better way of developing the particular personality from the point where he now is to the point to which you think he can and should attain?

- C. Consider attendance record:
1. Does it show regular or irregular attendance?
 2. Does it show illness—temporary, chronic or epidemic—which may account for certain deficiencies?
 3. What other factors affect this record?
- D. Consider home environment:
- Does it explain the presence or lack of definite valuable interests and habits?
- E. Consider the age of the child—chronological, social, mental:
1. Has he been retained before in this grade? If so, will he be definitely benefited by further retention?
 2. Will this affect his attitude toward the teacher and his work so unfavorably as to militate against success?
 3. Will he be mentally and socially out of his group if he repeats the grade?
 4. Does the school organization promise to make the most of his special interests and abilities? To develop new ones?
- F. Consider the problem of work and the teacher or teachers with whom he will work:
1. Is it probable that he will gain more in the new situation?
 2. If retention and promotion seem to be of no particular value, can he be taken care of in a special group where special problems of scholarship or behavior are given definite consideration?
- G. Consider the score made on standard tests:
- Does his achievement in the standard testing program compare favorably with others in his same grade, or those who have had similar opportunities?
- H. Consider his various abilities, attitudes, and understandings as set up in the suggested scale below: Can he approximate the appropriate level? If not, can he make a fair start toward the list of achievements?

A SCALE OF ATTAINMENTS BY GRADE LEVELS TO HELP GUIDE TEACHER ESTIMATE

It is good practice to have in mind a definite set of values stated in simple terms of meanings, attitudes and appreciations, skills, abilities, and possibly habits,—progressive in nature, and having observable evidences of achievement. *In general* a child should for his age and social level be able to:

1. Show in a measure how each of the activities pursued contributes to the fullness and efficiency of living.
2. Promote, conserve, and appreciate beauty in his surroundings.
3. Select and participate in worthy activities for himself and group.
4. Plan in part his own work and play, and work by the plan with reasonable success.
5. Stick to desirable tasks until finished.
6. Suspend judgment until evidence is sufficient to warrant a conclusion.
7. Satisfy curiosity with regard to the world about him.

For those who need help in setting up detailed lists of attainments the following references are given from *Publication 189*, State Department of Public Instruction, Raleigh, N. C.:

General—pp. 16-19.

Reading—pp. 46-53.

Oral and Written Language—pp. 85, 90, 92, 94, 96, 116, 123, 126, 129.

Mathematics—pp. 152-154, 155-156, 158-159, 163, 165, 167, 169, 171, 172-174.

Social Studies—

History—pp. 194, 196-197, 202, 213, 218, 227, 228, 229, 230, 231, 232, 234, 236, 237, 238, 239, 240, 242-244, 246, 247.

Geography—252-258, 260-264, 264-267, 268-271, 272-277.

Citizenship—pp. 280-281, 291-294, 309-311.

Health—pp. 391-396, 399-400.

Natural Science—pp. 339, 351, 370.

Physical Education—See pp. 411-423 and *Physical Education for Elementary Schools*—Neilsen and Van Hagen.

Art—pp. 430-434.

Music—pp. 467-470, 492.

Vocational Education—pp. 499-501 and *Home Economics Education for High Schools*, Publication 204, State Department of Public Instruction, Raleigh, N. C.

A SUGGESTED SCALE OF ABILITIES FOR GRADUATION FROM ELEMENTARY SCHOOL

Fine Arts

Art. Ability to:

1. Select articles—clothing, furniture, books, homes, etc.—for everyday use that have good line, proportion, and color.
2. Secure reasonable accuracy in modeling or carving the shape and proportion of objects.
3. Create designs for and accent the outline of bowls, vases, etc., with appropriate lines and color.
4. Use the human and animal figure in various positions to illustrate or to express original ideas.
5. Design, cut, or draw letters to use on signs, posters, letters, etc.
6. Classify buildings according to social activities for which they are designed.
7. Design on a scale and construct simple models of buildings suited to life's typical activities.
8. Design in detail simple plans for parks, parkways, gardens, flower beds, etc.
9. Approximate color in flowers, trees, and scenes representing the different seasons.
10. Make simple arrangement of flowers, furniture, drapery, etc., for a room.
11. Arrange scenery and stage furniture with the proper balance of light and dark.
12. Select or design stage scenery and costume observing art principles.
13. Recognize and use when possible colors best suited to the individual.
14. Plan harmonious color schemes for a variety of life situations—local entertainments, too dark classrooms, too light rooms, etc.
15. Indicate an elementary knowledge of vocational and professional possibilities in the art field.

Music. Ability to:

1. Sing with enjoyment a number of songs of musical, literary, community, national, and other worthy interests.
2. Analyze the aspects of beauty and expressions in compositions with attention to origin, textual meaning and style, for the purpose of developing intelligent musical taste and judgment.
3. Understand essential facts of elementary theory.

4. Explain any feature of the notation contained in songs of basal text.
5. Sing with greater facility three-part songs.
6. Participate cooperatively in choral and instrumental groups which the school provides.
7. Sing from bass clef, if group is ready.
8. Discuss the important musical events, especially those taking place in North Carolina and other states, including broadcasts of good music.

Language Arts

Language and Grammar. *Ability to:*

1. Speak easily and correctly in connection with everyday experience: e.g., (a) conversing with a guest of the family, an agent, or other business persons; (b) using the telephone; (c) making and answering inquiries; (d) giving short announcements and talks to clubs, class assemblies, and social gatherings.
2. Select and outline content material for effective class and special reports: (a) Take good notes on library, other reference reading, and public addresses; (b) prepare grade assignments in outline form for all school subjects; (c) outline and produce an original play of simple construction; (d) outline and give an original talk.
3. Write correctly and with individual style: (a) Business and social letters; (b) descriptions; (c) bulletin board and newspaper announcements.
4. Produce habitually correct form in sentence structure, punctuation, capitalization, indentation, spelling, penmanship, abbreviations, page arrangement, and other technicalities expected of child who has finished the elementary grade.
5. Identify and use well various language types according to purpose; argument, debate, petition, conversation, and such other creative writings as stories, poems, short plays, songs, games.

Reading. *Ability to:*

1. Use reading readiness as a means of more effective reading—
 - (a) Shows an interest in all reading activities.
 - (b) Uses library wisely to satisfy reading interests.
 - (c) Knows and uses correctly a wide choice of words in conversation and in all written work.
 - (d) Organizes ideas gained from wide reading.
 - (e) Reads and is able to reproduce the central thought and supporting details of a selection.
 - (f) Enunciates clearly so others can understand.
 - (g) Sits while reading so light will shine properly on book, and holds book correct distance from eyes.
2. Use fundamental habits and skills, attitudes and abilities necessary for effective reading—
 - (a) Has desirable practices and behavior in word recognition and also in recognizing groups of words.
 - (b) Reads sufficiently well to take standard tests in speed and accuracy making standard scores. Rate of reading about 200 to 250 words per minute.
 - (c) Desirable practices and behavior in the recognition of the sentence as a unit of thought.
 - (1) Shows without hesitation continuity of thought in successive sentences.
 - (2) Realizes that paragraph is made up of a group of related sentences which express a central idea.
 - (d) Desirable practices and behavior in intelligent interpretation.
 - (1) Reads and is able to carry out directions in assignments.
 - (2) Reads and is able to select main thoughts and central ideas.
 - (3) Reads and is able to organize materials around the central thought unit of a story.

3. Use reading as a means of developing a love of and a permanent interest in reading—
 - (a) Desires to collect and own books and enjoys sharing them with others.
 - (b) Knows the purposes of the library and uses library intelligently.
 - (c) Realizes and uses reading as one of the most desirable forms of entertainment.
 - (d) Uses reading in extending interest in new fields of learning.
 - (e) Reads aloud sufficiently well that the audience may understand directions, instructions, announcements, programs, and other information.
 - (f) Holds body in a pleasing manner while reading to an audience and cultivates and uses a pleasing reading voice.
4. Use reading in connection with all school activities in all areas of reading.

Spelling. *Ability to:*

1. Spell correctly in all writing activities.
2. Use the dictionary habitually.
3. Show continuously increasing scope in the spelling vocabulary.
4. Show command of a variety of descriptive and picturesque words.
5. Give evidence of normal seventh grade spelling ability as determined by standardized spelling scales.

Penmanship. *Ability to:*

1. Keep all written work up to a reasonable standard as shown by the use of standard writing scale for rate and quality.
2. Show evidence of being fairly proficient as to accuracy of form, selection of materials, arrangement on page.
3. Show evidence of pride and ease in handwriting.
4. Determine needs for improvement.
5. Improve and have the desire and habit of improving.

Mathematics

Arithmetic. *Ability to:*

1. Read and write any number (integer, fraction, or decimal) for which he may have the need or the occasion to use.
2. Apply his knowledge of measurements to any reasonable situation which may be encountered in everyday life.
3. Understand and be able to solve any example involving the application of the two types of percentage.
4. Compute examples involving interest.
5. Prepare simple graphs and interpret graphs with which he may come in contact in the everyday affairs of life.
6. Give evidence of having acquired satisfactory speed and accuracy in using the four fundamental processes involving integers, fractions, and decimals.
7. Give evidence of a knowledge of decimals which should enable him to interpret and solve any reasonable example or practical problem.
8. Reason so as to be able to solve any two or three step practical problem.
9. Show a working knowledge of the business forms taught.
10. Show an understanding of simple ratio and proportion.
11. Show an understanding of percentage as applied to business such as commission, discount, profit and loss, interest.
12. Give evidence of having the habit of neat, orderly work and of checking all work.
13. Give evidence of development of an intelligent appreciation in and for arithmetic as a useful tool in interpreting, evaluating, and solving situations and problems involving quantitative terms and arithmetical operations.

Social Studies**Geography.** *Ability to:*

1. Apply the geographic relationships dealing with life situations concerned with:
 - (a) The simpler civilizations of Mesopotamia, the Congo, and the Nile Valleys, Antarctica, etc.
 - (b) The relationships between dominant work activities and natural factors of the United States and Canada.
 - (c) Humans—Use regions of Europe and Asia.
 - (d) Complex civilizations where government by an outside agency and transplanted cultures exist.
 - (e) World patterns of animals, forests, population, crops, rainfall, temperatures, etc.
2. Recognize map symbols and give mental picture of typical towns and cities, rivers, ocean, seacoast, falls, plain, mountains, etc., of first item.
3. Use properly the terms peculiar to the subject as they are used in the texts for the grade.
4. Give reasons for the ways in which man travels, the kind of food he eats, the kind of clothing he wears, etc., in all the type regions of the world.
5. Show respect for the way in which the various peoples of the world have made adjustments to natural situations.
6. Indicate interest in and develop definite plans for the conservation of natural resources.
7. Demonstrate map, globe, picture, and text reading abilities expected in grades four, five, six, and seven.
8. Show fairly consistent practice of habits as expected in grades four, five, six, and seven.
9. Give evidence of growth in the development of understandings and appreciations expected in grades four, five, six, and seven in State adopted texts.

History. *Ability to:*

1. Give evidence of understanding the differences and likenesses in life of man of early times and of the present day as to foods, clothes, homes, tools, transportation and communication.
2. Give the major contributions of the following groups of people to life in America: Greeks, Romans, Egyptians, and Babylonians.
3. Explain the major interests and contributions of three European countries to the founding of America.
4. State briefly and concisely the major contributions of the following persons: Roger Williams, Peter Stuyvesant, William Penn, Captain John Smith, Sir Francis Drake, and Sir Walter Raleigh.
5. Give evidence of understanding the steps in the gradual transition of American colonies from a group of independent provinces to an independent united nation.
6. Give a brief and comprehensive story of the War Between the States which explains major causes, identifies outstanding leaders (Abraham Lincoln, Jefferson Davis, Robert E. Lee, Stonewall Jackson, Ulysses Grant, David G. Farragut), connects important dates and indicates important results in national life.
7. Give briefly the story of Cuba's struggle for independence with the part the United States had and has in this chapter of World History.
8. Identify the following persons with at least one of their outstanding achievements: Thomas A. Edison, Alexander Bell, Theodore Roosevelt, Walter Reed, Woodrow Wilson, John J. Pershing, Herbert Hoover, Richard E. Byrd, Charles A. Lindbergh, Jane Addams, Horace Mann.
9. Show evidence of understanding the social changes in American life due to industry, invention and territorial expansion.
10. Describe and illustrate the values of peace and the evils of war.

Civics. Ability to:

1. Describe five services rendered by the city or town governments, eight by state and five by the national.
2. Give an outline of the content of the federal and State constitutions, the names of the principal departments of government with the persons acting as directors, or heads, names of law-making bodies, and their most important powers and duties. (History texts, *N. C. Manual and Dual Government*.)
3. Describe and demonstrate good manners and correct parliamentary usage for conducting group discussions.
4. Name congressmen, legislators, and four other principal elective officials, and indicate some local problem which is the responsibility in whole or in part, of each.
5. Explain the meaning of and illustrate regard for or interest in the welfare of others in his own group, for other peoples and nations.
6. State purpose and some advantages of the World Court.
7. Express reasons for justifiable pride in school, community, and state.
8. Recognize and follow good leadership in governmental problems connected with school life.

Physical and Health Education**Physical Education. Ability to:**

1. Keep good posture for individual possibilities.
2. Control temper in contests and games.
3. Walk, run, skip, gallop, slide, leap, step-swing-and-balance to music.
4. Make peasant and minuet curtsies.
5. Execute polka and waltz rhythms in folk games.
6. Do one standard folk dance.
7. Make original rhythmic pattern from several simple musical selections.
8. Execute all rhythm steps above and work out unit using them (Girls).
9. Hit bowling pin with 12-inch ball at distance of 35 feet (Girls).
10. Catch baseball at a distance of 110 feet (Boys).
11. Run 100 yards in 15 seconds (Boys); 60 yards in 7 seconds (Girls).
12. Jump 6 feet 6 inches (standing broad) (Boys); 6 feet 2 inches (Girls).
13. Throw baseball 125 feet (Boys); 115 feet (Girls).
14. Forward hand spring (Boys).
15. Shoot 3 goals in 25 seconds (Boys); shoot 3 out of 5 (Girls).
16. Play 12 games learned during the year.
17. Swim 100 yards, free style (Boys); swim 40 yards (Girls).
18. Rope climb, hands and feet, 16 feet (jumping start) 9 seconds (Boys).
19. Execute sailor dive in good form (where water facilities are available).
20. Running vault over bar or fence 4 feet high (Boys); 3 feet (Girls).
21. Explain the historical origin of ten or more national games and rhythms.

Health. Ability to:

1. Produce evidence showing that he usually obeys essential hygienic practices.
2. Define temperance in terms of wise choices in habits of dressing, riding, eating, sleeping, drinking, playing, and other life activities.
3. Engage habitually in one or more outdoor sports.
4. State values in the practices of cleanliness in person, clothing, and environment.
5. State values of activities out-of-doors.
6. Describe the work of the public health department.

7. Recognize sources of good water supply and demonstrate one method of purification.
8. Use appropriately these terms: chlorinate, cesspool, cistern, contagion, deposit, filter, ground water, health protection, hydrant, immunization, sanitary inspector, food inspector, lavatory, pasteurization, quarantine, sediment, septic, sewage, symptoms, and other terms peculiar to the subject of health in the lower grade.
9. Write a two hundred word discussion on "The Responsibility of the Community to Individual and Community Health and of the Individual to the Community Health."
10. Show reasonable familiarity with material of the supplementary texts.
11. State some special growth problems of the pre-adolescent and the adolescent and some special activities related to their successful solution.
12. Give some simple rules for proper cooking of vegetables and meats.
13. Detect symptoms of common communicable diseases, give and observe rules to prevent contagion.
14. Give evidence of understanding that feeling and emotion may distort judgment.
15. Render first aid in at least four possible emergencies.

Science

Natural Science. *Ability to:*

1. Observe carefully and accurately.
2. Recognize, understand, and appreciate the natural phenomena and plant and animal life of the environment.
3. Investigate, experiment, study, and interpret, using scientific apparatus when needed.
4. Record results of observations and investigations correctly.
5. Follow instructions.
6. Collect, prepare, and care for specimens and materials.
7. Plan and construct simple scientific apparatus, such as rain gauge, insect net, etc.
8. Use and care for tools.
9. Use certain objective materials and instruments, such as those found in everyday life, as simple household electric appliances, conveyances of transportation, means of communication, and institutions of the community.
10. Recognize, interpret, and use common terms of the scientific vocabulary.
11. Continue in the development of scientific attitudes and habits of suspending judgment until facts are in hand.
12. Explain in simple phrases the difference in natural laws and man's changing conceptions.

SOME MEANS OF MEASURING PUPIL PROGRESS

A periodic measurement of pupil progress is essential in making a fair appraisal of the school program. In order to adapt instruction to the needs of the child, it is necessary for the modern elementary school to measure child growth and development along several lines:

1. Mental capacity or intelligence.
2. Mastery of basic tools of learning, such as reading, writing, language, and the arithmetic processes.
3. Functional use of important facts and concepts in such subjects as history, geography, and science.
4. Personality development, including all traits having to do with social behavior, such as attitudes, habits, and appreciations.
5. Physical growth and motor ability.

Although all phases of child development cannot at present be measured satisfactorily, much progress has been made in this direction, and reliable tests of pupil attainment in many fields have been devised. In general, tests fall into three classes: (1) intelligence tests, (2) teachers' tests and examinations, and (3) standardized achievement tests.

Intelligence Tests

To devise a school program fitted to the needs of boys and girls one should learn as much as possible about the pupils who make up the instructional groups. As a starting point it is desirable to know the mental capacity of the individuals. Intelligence tests indicate the level of difficulty for instruction and the amount of individual attention needed by each. Although these tests do not give a complete picture of the needs and capabilities of pupils, their use is helpful in understanding the child. Such tests should be administered two or three times during the child's elementary school training, preferably just prior to classification and grouping of pupils. The teacher should use intelligence test results for the following purposes:

1. Discovering the mental ability of each child.
2. Diagnosing the pupil's learning difficulties.
3. Discovering exceptional children, of either high or low ability, who need special kinds of school work.
4. Discovering the mental level of the class in order that activities of the proper difficulty may be carried on.
5. Analyzing personality and making pupil adjustments.

Among the reliable tests available for the measurement of mental capacity are the following:

Engel, *Detroit First Grade Intelligence Test* (Grade 1). World.
Pintner-Cunningham, *Primary Mental Test* (Grades 1-2). World.
Haggerty & Others, *National Intelligence Test* (Grades 3-12). World.
Sullivan & Others, *California Test of Mental Maturity* (Grades 1-12).
Southern California School Book Depository, Los Angeles, Calif.

Teachers' Tests and Examinations

The most important feature of any good test is validity. A test which does not measure what it is supposed to measure gives results that are inaccurate in their measure of pupil achievement and in their indication of pupil needs. As published tests are usually invalid in measuring certain parts of the program in many local situations due to the special educational objectives of the local school, the teacher must rely to a large extent on tests which she constructs herself. The modern elementary school tends to place the emphasis in instruction on the development of desirable habits, skills, concepts, attitudes, and appreciations, and to stress the functional value of what has been learned rather than the subject matter itself. A continued systematic use of standardized educational achievement tests of the factual-knowledge type generally used tends to focus teaching upon those things measured by such a test, therefore teacher-made tests for measuring the more significant outcomes of instruction are essential if the work of the pupil and the school is to be appraised fairly.

In constructing tests teachers should not confine test items to those of the

who, what, when, where, name and *define* type. Such tests merely direct pupil study and classroom procedure to the memory of textbook material with the result that the curriculum loses much of its vitality and functional value. Teacher-made tests should cut across conventional subject matter lines and elicit the desired mental processes of thinking *through* and *about* facts in addition to learning to recite them. In view of the foregoing it would seem that the essay-type examination can be more readily adapted for the purpose of calling forth desired mental processes and measuring the functional use of facts learned. Nevertheless the newer-type informal objective tests may be designed to measure the functional value of knowledge to some extent, and their construction for the purpose of measuring factual knowledge is comparatively easy. These tests may take the following forms:

1. True-false statements.
2. Sentence completion.
3. Multiple-choice exercises.
4. Rearrangement of items.
5. Matching exercises.
6. Judgment tests.

In the final analysis teacher-made tests supplement standardized achievement and intelligence tests. They should be administered throughout the year as occasion demands, and the results should be used:

1. To measure pupil achievement in subject matter fields not covered by standardized tests.
2. To discover strengths or weaknesses in instruction.
3. To direct pupils in their study.
4. To determine changes in attitudes and appreciations.
5. To determine the extent to which pupils have learned to use facts.
6. To determine to what extent the goals of a unit of study have been reached.

The large unit method of teaching especially calls for the intelligent construction and use of teacher-made tests of achievement. Too frequently teachers assume that certain desirable outcomes of a unit of study have been realized without determining the actual results. In addition to adequate testing it is desirable for teachers using the unit method of instruction to keep some sort of a record of the progress of the class, such as a log or journal, in which daily or weekly entries are made. Such a record promotes better planning and assures a more careful check on what understandings pupils are getting and what subject matter is being covered.

Standardized Achievement Tests

The standardized achievement test measures more comprehensively than teacher-made tests the extent to which pupils have mastered the basic tools of learning. They have the advantages of comparable norms and diagnostic profile charts which make possible rapid analysis of pupil difficulties. The prime consideration in planning a testing program utilizing standard tests is the use the teacher and administrator will make of the results. Achievement tests are tools for use in the improvement of instruction, and any testing program which does not result in efficient follow-up work is very inadequate. Results of the tests given at the close of the previous school year should be used at the beginning of the year for follow-up work. Further

testing at mid-term is desirable in measuring progress and in revising remedial teaching. Standardized tests should not be regarded as an abbreviated course of study on which instruction is focused as this limits the curriculum and invalidates the results of the tests. Standardized tests are only a part of the measuring program which includes teacher-tests, mental tests, and directed observation. The following are acceptable uses to which standardized tests may be put:

1. To diagnose pupil difficulty.
2. To determine the kind and amount of remedial teaching to be done.
3. To group pupils for remedial teaching.
4. To give an impersonal picture of the child for use in promotion and classification.
5. To make comparisons with national norms and with other schools.
6. To discover strengths and weaknesses in the instructional program.

Among the reliable standardized tests available from publishers are the following:

BATTERIES—

- Metropolitan Achievement Tests. World.
- New Standard Achievement Tests. World.
- Modern School Achievement Tests. Bureau of Publications, Teachers College, Columbia University, New York.
- Progressive Achievement Tests. Southern California School Book Depository, Los Angeles, Calif.
- Public School Achievement Tests. Public School Publishing Co., Bloomington, Ill.
- Unit Scales of Attainment. Educational Test Bureau, Minneapolis, Minn.
- Iowa Every-Pupil Test of Basic Skills. Bureau of Educational Research and Service, State University of Iowa, Iowa City, Iowa.

READING—

- Gates. *Primary Reading Tests* (grades 1-2). Laidlaw.
- Detroit Reading Tests*. World.
- Gates. *Silent Reading Tests* (grades 3-8). Laidlaw.
- Sangren-Woody. *Reading Test*. World.
- Gray. *Standardized Oral Reading Paragraphs*. Public School Pub. Co.

HANDWRITING—

- Thorndike. *Handwriting Scale*. Laidlaw.
- Ayres. *Handwriting Scale*. Public School Pub. Co.
- Freeman. *Diagnostic Handwriting Chart*. Houghton.
- Courtis-Shaw. *Practice Tests in Handwriting*. World.

LANGUAGE AND GRAMMAR—

- Pressey. *Diagnostic Tests in English Composition*. Public School Publishing Co.
- Wilson. *Language Error Test*. World.
- Willing. *Composition Scale*. Public School Publishing Co.

SPELLING—

- Ayres. *Spelling Scale*. Public School Publishing Co.
- Iowa Spelling Scales*. Public School Publishing Co.

REFERENCES ON TESTING:

- Woody-Sangren. *Administration of the Testing Program*. World.
- Madsen. *Educational Measurement in the Elementary Grades*. World.
- Smith and Wright. *Tests and Measurements*. Silver.

Samples of Good Educational Measuring Instruments for High Schools*

Standard tests are useful for diagnosis, prognosis, or comparison. In diagnosis a test helps the teacher analyze the source of difficulty so that the laws of learning may apply in learning a narrow habit rather than a broad one. Practice is then furnished at the point where needed. In prognosis, a test is used to foretell the probable success of a person in a course before he takes it. Such tests have been useful in prophesying success or failure in mathematics and Latin. Comparisons while at times odious are nevertheless healthy. In standard tests the figures used for comparison are based on averages of large numbers of persons and hence are not subject to the vagaries of the single class. There are other uses also.

The tests here listed are proven instruments of measurement. The list is small so that a busy executive or teacher can come to a decision quickly. The writer would be glad to correspond with anyone about his testing problems.

Intelligence

INDIVIDUAL—Stanford Binet, First or Second Revision. Houghton.

GROUP— JUNIOR HIGH SCHOOL

Terman. *Group Test of Mental Ability*. World.

Otis. *Self-Administering Tests of Mental Ability*. Intermediate Examination. World.

SENIOR HIGH SCHOOL

Otis. *Group Intelligence Scale*, Advanced Examination. World.

Otis. *Self-Administering Tests of Mental Ability*, Higher Examination. World.

Interest Inventories

Miner. *Analysis of Work Interests*. C. H. Stoelting, 424 N. Homan Ave., Chicago, Ill.

Strong. *Vocational Interest Blank*. Stanford University Press, Stanford University, California.

Garretson and Symond. *Interest Questionnaire for High School Students*. Bureau of Publications, Teachers College, New York City.

Lehman and Witty. *Play Questionnaire*. Ohio University, Athens, Ohio.

Achievement

GENERAL—

Sones-Harry. *High School Achievement Test*. World.

Iowa High School Content Examination. Bureau of Educational Research and Service, Extension Division, The State University of Iowa, Iowa City, Iowa.

ART—

McAdory. *Art Test*. Psychological Corporation, 522 Fifth Ave., New York, N. Y.

Meier-Seashore. *Art Judgment Test*. State University of Iowa, Iowa City, Iowa.

*Prepared by Dr. A. M. Jordan, University of North Carolina, Chapel Hill, N. C.

COMMERCIAL SUBJECTS—

Blackstone. *Stenographic Proficiency Tests*. World.

Elwell-Fowlkes. *Bookkeeping Test*. World.

Thompson. *Business Practice Test*. World.

ENGLISH—

Cross. *English Test*. World.

Hudelson. *Typical English Composition Ability Scale*. World.

Leonard. *Diagnostic Test in Punctuation and Capitalization*. World.

Cooperative Tests in English Usage, Literature Acquaintance, and Literature Comprehension. Cooperative Test Service, 500 W. 116th St., New York City.

LATIN—

Orleans-Solomon. *Latin Prognosis Test*. World.

White. *Latin Test*. World.

Cooperative Latin Test. Cooperative Test Service.

MATHEMATICS—

Columbia Research Bureau *Algebra Test*. World.

Orleans. *Algebra Prognosis Test*. World.

Cooperative Tests in Algebra and General Mathematics. Cooperative Test Service.

Iowa Unit-Achievement Tests in First-Year Algebra. State University of Iowa, Iowa City, Iowa.

Columbia Research Bureau *Plane Geometry Test*. World.

Orleans. *Geometry Prognosis Test*. World.

Schorling-Sanford. *Achievement Tests in Plane Geometry*. State University of Iowa, Iowa City, Iowa.

MECHANICAL APTITUDE—

Stenquist. *Mechanical Aptitude Tests*. C. H. Stoelting.

Detroit. *Mechanical Aptitude Examination*. Psychological Corporation.

Minnesota. *Tests of Mechanical Abilities*. Psychological Corporation.

MODERN FOREIGN LANGUAGE—

American Council *Alpha and Beta Tests in French, German, and Spanish*. World.

Columbia Research Bureau *Tests in French, German, and Spanish*. World.

Cooperative Tests in French, German, and Spanish. Cooperative Test Service.

MUSIC—

Kwalwasser-Ruch. *Test of Musical Accomplishment*. State University of Iowa, Iowa City, Iowa.

READING—

Iowa Silent Reading, Advanced Test. World.

SCIENCE—BIOLOGY—

Presson. *Biology Test*. World.

Ruch-Cossmann. *Biology Test*. World.

Cooperative Biology Test. Cooperative Test Service.

CHEMISTRY—

- Glenn-Welton. *Chemistry Achievement Test*. World.
Powers. *General Chemistry Test*. World.
Cooperative Chemistry Test. Cooperative Test Service.

GENERAL SCIENCE—

- Ruch-Popenoe. *General Science Test*. World.
Cooperative General Science Test. Cooperative Test Service.

PHYSICS—

- Columbia Research Bureau *Physics Test*. World.
Cooperative Physics Test. Cooperative Test Service.

SOCIAL STUDIES—

- American Council *Test in European History*. World.
Columbia Research Bureau *American History Test*. World.
Cooperative Service Tests in American, European, Ancient, Mediaeval, English, and World History. Cooperative Test Service.

Personality

- Bell. *Adjustment Inventory*. Stanford University Press.
Bernreuter. *Personality Inventory*. Stanford University Press.
Haggerty-Olson-Wickman. *Behavior Rating Scales*. World.

REFERENCES:

- Bingham. *Aptitude Testing*. Harper.
Fryen. *Measurement of Interests*. Holt.

PUPIL REPORTS

There have been many changes in the form of pupil report cards during the past twenty-five years. Modern present-day schools are using a very different type of report card from that in use even ten years ago. The newer report cards are being constructed so as to show *growth* in terms of power, ability, and achievement.

Many school faculties have made marked improvement in developing a suitable report card, notably, the Training School at East Carolina Teachers College and Curry Training School of the Woman's College, Greensboro.

The most outstanding phase of the procedures used in developing the newer type cards, which are better adapted to the purposes of the modern school program, was the careful preliminary work with all teachers and parents. A pupil report card for State-wide use has been devised as a suggestion. See copy below.

In order to give adequate time for measuring growth and development in the individual pupil, many school systems distribute pupil report cards every two months instead of monthly. This is a very distinct advantage to both teachers and pupils. During this two months' interval individual letters to parents concerning the work of individual children are forwarded to the homes by teachers, when the needs of the work make this necessary or essential. This procedure is becoming very popular in the public schools.

Any school faculty wishing to study the forms and types of modern report cards may have the use of a rather complete exhibit of report cards from

INSIDE OF NORTH CAROLINA ELEMENTARY REPORT CARD

SOME OUTCOMES DESIRABLE FOR CITIZENSHIP AND CHARACTER

[illegible]

SYMBOLS FOR MARKING—

- ✓ Meaning grade level or grade average.
 X Meaning below grade level or average.
 ○ Meaning below grade level or average, but improving.
 * Meaning below grade level or average, but making honest effort.
 + Above grade level or average.
 No symbol indicates that the outcome is not considered at this time.

school systems throughout the country. This exhibit may be secured by application to the Division of Instructional Service. Copies of the North Carolina pupil report card may also be secured upon application to the Division of Instructional Service.

PROFESSIONAL IMPROVEMENT

STUDY GROUPS

The past five years have shown a decided advance in both voluntary and required study among in-service teachers as individuals and as groups. The faculty not having a definite program of study is the exception to the rule. In general, the group concentrates on a local problem. It has been the practice now for several years for the Division of Instructional Service to prepare suggested programs of study which have been adapted with the help of the local committee. In this way many school systems have been able to follow a continuous, progressive program without duplication. Some superintendents publish this program in a yearbook for their respective administrative units. Suggested study outlines may be secured from the Division of Instructional Service upon problems selected by groups or individuals.

A suggested procedure for organizing the study group is as follows:

Organization.

1. Have at least the following officers and committees—
 - a. *Chairman*—County or City Superintendent.
 - b. *Recording Secretary* elected by the group.
 - c. *Materials Chairman* appointed by the county or city superintendent to see that the professional library is built up, distributed, and properly catalogued and filed.
 - d. *A Program Committee* appointed by the county or city superintendent as early in the year as possible to decide on dates, places, time of meetings, leaders, topics and procedures.
 - e. *A Course of Study Secretary* appointed by the superintendent to collect, edit, and file committee reports with the county superintendent and Division of Instructional Service.
2. Give out before first meeting a program stating hour, place, and date for each and all meetings together with individual and group assignments and suggestive time limits.
3. Plan a variety of types of reports—committee, individual, dramatic exhibits, and group and county-wide meetings.

Hints for Making Individual Contributions More Effective.

1. Read over the whole program to get whole plan in mind.
2. Keep each session within two and a half hours. Stick to the time limit.
3. Remember it takes a *long* time to prepare a *good short talk*.
4. Allow time for informal "round table discussion".
5. Use every teacher and principal some time during the year.
6. Use as many sources of information as are available, remembering that the study of children themselves and life about us are the richest sources.
7. Demonstrate and illustrate concretely with *school life* material.
8. Talk to the points assigned you. Avoid repeating yourself or others except for emphasis. Avoid bookishness.
9. Use patrons as active participators. *Invite them to all meetings.*

10. Bring Courses of Study and Handbook to meetings.
11. Be on time. Close on time.
12. Have a definite plan for purchasing, borrowing, and distributing source materials and references. Use University Extension Library and N. C. Library Commission.
13. Precede all county meetings with local meetings to make sure everybody is ready for all discussions and follow-up work.
14. Provide for socializing features—e.g. annual dinner, "dutch suppers".

How the Division of Instructional Service May Help.

1. Will supply general outline plan of study (this Handbook) and illustrative materials.
2. Will meet with program committee to help organize year's work.
3. Will supplement outlines with pertinent related materials for study whenever possible.
4. Will visit schools to study situation and offer suggestions for improvement of instruction, giving especial attention to subject selected for special study.
5. Will attend study group meetings when possible.

CONFERENCES

Several types have been found helpful.

Regional Conferences sponsored by local and State leadership.

A SCHOOL DAY IN ACTION

As a phase of the State program for the improvement of classroom instruction, the Division of Instructional Service is concerned with the proper interpretation and use of the curriculum report, *A Study of Curriculum Problems—Practices and Suggestions*, Publication 189, Raleigh, N. C., and with the development of curricula adapted to the worthy educational purposes and interests of children of that community. To this end the following activities, with all of which the school forces are more or less familiar, have been pursued:

1. Preliminary orientation for superintendents and principals in summer administrative conferences.
2. Introductory explanation to teacher and laymen groups for orientation in the Course of Study.
3. Preparation of suggestive types of study programs for teaching groups and advising with special committees.
4. Regional conferences held at selected centers for observing learning in action.
5. Discussion and evaluation of learning situations observed.

In conferences held visitors were furnished with a program of the planned schedule and an observer's guide directing detailed attention to definite aspects of the activities which were an outgrowth of preceding activities. Before coming to the school, however, a letter usually set up three or four thought-provoking questions. For example, these major problems in connection with the Language Arts program were set up to focus general thinking:

1. Why do children read, write, and speak? In what forms?

2. How well do the teacher and the program of activities in this and other schools serve these fundamental purposes?
3. How can children learn to live successfully and happily as individuals and as a group?

Preparation for such a day involves much careful planning to get teachers willing and ready to teach under the eyes of other teachers and to interest superintendents, principals, and teachers in giving the additional time required for the visiting. This was done by individual and group conferences and by gradual development of a cooperative study group plan, over a long period of time.

The study conferences themselves consisted of definite reports on classroom procedures, philosophy and materials, of demonstrations, and of study of the subject matter itself. For example, demonstrations for teachers were made in choric speaking, in definite art techniques and processes. Supplementary material was often furnished. Exhibits of useful material were features. To illustrate, small select libraries related to units were secured through the North Carolina Education Association and set up in libraries of limited scope.

It was the goal to place all emphasis on individual pupil needs in a given subject matter field; that is, in connection with a problem felt by the pupil. For example, *speaking* was thought of as a means of changing action—as a means of and as a result of thinking and feeling about the things which are of general concern. Hence, attention was directed to *greetings, questioning, commenting*, at all times, in all the situations in which teachers and children naturally found themselves. The same thing was done with the graphic arts and with health and recreation.

The Panel Discussion.

In this type of program different people from institutions or fields having widely different points of view present briefly their special angle on a given problem. Following this they question and challenge each other. And finally, make a summary of the discussions.

HOW TO HOLD A PANEL CONFERENCE

1. The panel method is the simplest of conference methods, consisting of:
(a) A chairman who directs the program and discussion, and who sums up the conclusions of the group; (b) an informal discussion by several members of the issues raised; (c) questions addressed to panel members from the audience and from each other.
2. Points to be observed are: (a) Select the conferees who are particularly interested in the questions, and who feel responsible for the success of the conference; (b) limit the active participants to prevent lagging and diversion from the issues; (c) limit each speaker to prevent monopolizing of the time; (d) hold a meeting preliminary to the conference to choose a chairman and to assign individual parts in the procedure.
3. Order of procedure is: (a) Chairman calls the meeting to order; (b) states the question to be considered as briefly and concisely as possible; (c) emphasizes the need for keeping the main issue in mind, for open-mindedness and clear thinking, and the desirability of reaching cooperatively a decision agreeable to all; (d) sets up the time limits; (e) presents the participants;

(f) mentions some desired ends; (g) focuses thought through stimulating questions; (h) calls on members for points of view.

The panel members express themselves in statements and questions, being kept to the point by the chairman when necessary. A few minutes intermission is given for mental and physical relaxation. The chairman finds points of agreement and disagreement and states the final results. The results are then written, giving the points at issue and a summary of worthwhile contributions.

Round-Table Discussion.

This is a similar technique, but as a rule each person comes with a problem on which he makes informal comments.

Forums.

The forum movement in this country is rapidly gaining momentum and approval. Many thoughtful persons, educators and laymen, believe that forum discussion has real value as a means of civic education.

For those who are interested in forums the following bulletins are suggested:

Studebaker, Sheets and Williams. *Forums for Young People*. Bulletin, 1937, No. 25. Office of Education, Department of the Interior, Washington, D. C. 15 cents.

A study of problems and plans involved in providing forum discussions for high school and college students and for young people in the community.

Studebaker and Williams. *Choosing Our Way, a Study of America's Forums*. Bulletin, 1937, Miscellany No. 1. Office of Education, Department of the Interior, Washington, D. C. 35 cents.

A handbook for educational administrators interested in organizing and operating adult forums. Reports the work of forum demonstration centers.

Chancellor and Williams. *Printed Page and the Public Platform*. Bulletin, 1937, No. 27. Office of Education, Department of the Interior, Washington, D. C. 20 cents.

Of interest to librarians and forum leaders because it deals with library and the adult forum.

The following is taken from *Forums for Young People*, pages 1-3:

"WHAT IS A FORUM?"

In this publication we use the term 'forum' to denote an organized process of free discussion of public affairs. It refers not only to a method or technique of learning well known to pedagogy as 'socialized recitation' or 'class discussion', but to a body of subject matter as well. In addition, it is descriptive of special organizations to achieve the discussion of public affairs. This generalized conception may be clarified by listing the important aspects of a forum.

Meetings

1. The forum, used in the sense of an organized process, is a program consisting of a series of meetings. Each meeting may be called a forum, but all of the meetings put together may be called the forum. The term is used here to refer primarily to the program and not to an individual meeting.

Subjects

2. The forum program is based very largely upon those public questions which agitate the public mind. The field of subject-matter covers those issues and current problems in modern society which are up for public consideration and decision at any particular time. The forum is not simply a method of dealing with all problems requiring understanding.

Participation

3. The forum program is further based upon real audience participation through free discussion. Regardless of the device used to introduce and present the subject, a major emphasis is placed on the free expression of the members of the group through questions to the speaker, (if there is one) to others in the audience, and through the presentation of comments or points of view.

Preparation

4. The forum program also requires preparation on the topics discussed. Special speakers, debaters, or panels may be especially prepared to develop the discussions. Ordinarily a meeting to discuss some phase of public affairs which does not rest on the careful preparation of some one or more persons results in a 'talk fest' rather than a 'forum'.

Leadership

5. The forum program needs the leadership of a competent person, skilled in promoting fruitful discussion and in guiding group thinking. The participation of the members of the forum group in planning the meetings and selecting the topics for discussion is an objective of a competent leader."

Short Conferences.

A series of short special sessions on a single problem of instruction, such as mathematics, business, the music conference, and the schedule on social studies, art, etc., arranged for the year. These are not intended in any way to take the place of organized study but rather to stimulate and supplement it.

EXHIBITS

An example of this type was the Second Annual School Fair presented by one of the city schools during the spring term. It proved very successful, and resulted in getting out to the school about 5,000 people. The management of the Fair was in the hands of a special committee. The entire school system participated in it in some way. A fine enthusiasm was displayed by all of the pupils who took part in the activities.

The following foreword to the program which was sent to parents and friends will indicate the purpose of the Fair and the splendid spirit of the teachers and principals in making preparation for the occasion:

"We present the second school Fair to the parents of this school in the hope that you will see and understand the newer approaches to education. Subject matter was the core of the school of yesterday which felt that certain definite subjects should be imposed upon all children alike, on the theory that what was good for one of them was good for all. Today, the situation is reversed,

for the child is the heart of the school. Teachers believe that teaching children is vastly more important and more thrilling than the teaching of geography, arithmetic, or grammar. They believe that the school must train the child to adjust himself socially, help him cultivate leisure time interests, and develop his personality. Such training as this requires an understanding of boys and girls in addition to a knowledge of subject matter.

"We hope you will see, in this miniature presentation of activities in action, the type of work through which these aims are being realized and through which your boys and girls are developing naturally and wholeheartedly."

MEMBERSHIP AND ACTIVE WORK IN PROFESSIONAL ORGANIZATIONS

Teachers and principals should first of all join and devote some time and thought to intelligent planning and work in their own local and State professional organizations, whose sole obligation is the promotion of the welfare of the school child and teaching personnel. The official publications, *North Carolina Education* and *The High School Journal*, keep one in close touch with teacher and pupil welfare practices and in touch with State and local leaders in the instructional field.

A teacher should also have membership in a national educational organization. Membership in such an organization gives one voting privileges, the official magazine, and other desirable publications.

In addition a teacher should have magazines of a general cultural and professional nature. The following list is suggested:

*MAGAZINES

General

- Building America. New York. \$2.
- Childhood Education. Washington, D. C. \$2.50.
- Clearing House. New York. \$3.
- Education Digest. Ann Arbor, Michigan. \$2.
- High School Journal. Chapel Hill. \$1.50.
- National Education Association Journal. Washington, D. C. \$2.
- North Carolina Education. North Carolina Education Association. Raleigh. \$2.
- Progressive Education Magazine. New York. \$3.
- Readers' Digest. New York. \$3.
- School Life. Washington, D. C. \$1.
- State School Facts. Raleigh. Free.
- University News Letter. Chapel Hill. Free.

Art

- Art Instruction. New York. \$3.
- Graphic Arts Education. Washington, D. C. Magazine of Art. Washington, D. C. \$5.
- School Arts Magazine. Worcester, Mass. \$2.

Language Arts

- Elementary English Review. Detroit, Michigan. \$2.50.
- English Journal. Chicago. \$3.

Music

- Etude Music Magazine. Philadelphia. \$2.
- Music Educators Journal. \$1.
- Music Quarterly. New York. \$3.
- The School Musician. Chicago. \$3.

Physical and Health Education

- Hygeia. Chicago. \$2.60.
- Journal of Social Hygiene. New York. \$2.
- Physical Education, Health, and Recreation Digest. Chicago. \$1.
- Safety Education. New York. \$1.

Science

- National Geographic Magazine. Washington, D. C. \$3.
- Nature Magazine. Chicago, Illinois. \$2.50.
- Science Classroom. New York. 25c.
- Science Guide for Elementary Schools. State Department of Education. Sacramento, California. \$1.25.
- Science News Letter. Washington, D. C. \$5.

Social Studies

- The Journal of Geography. Mankato, Minnesota. \$2.50.
- Occupations. New York. \$3.50.
- Social Education. Columbia University. New York. \$2.
- Vocational Guidance Digest. San Francisco, California. \$2.50.

*A classified list of educational periodicals is published annually by the American Association of School Administrators, Washington, D. C.

PROBLEMS FOR FACULTIES OF LOCAL UNITS

1. Coordination of the subject-matter materials within the grades through the selection of large areas of learning appropriate to the level and to social needs with a view to eliminating duplications (as, for example, in the social studies program), and increasing emphasis on the pertinent relationships throughout (as, for example, in the natural and social sciences).
2. Coordination of the subject matter in the grade sequences throughout the elementary and high school groups.
3. Making functional the tools of learning (reading, spelling, language, computation and fundamental arithmetical processes).
4. How to lift learning and teaching to the creative art level so as to result in original verse, drama, painting, prose, music, dance, etc.
5. What constitutes a genuine program of play and recreation suited to educational needs of high school girls and boys?—"A game for all and all in a game" is fast becoming the basic rule for inaugurating a program in sports for schools.
6. How to make every year one of real experience to every boy and girl.
7. Use of radio and movie as aids to enriched learning and living.
8. Use of the forum plan of discussion.

SPECIAL PHASES OF THE WORK

PHYSICAL AND HEALTH EDUCATION

Organization and Administration.

The modern trend in school administration, beginning about 1920, is to combine all the activities of the school program which have to do with the health and physical development of the pupils into one department, usually called the department of physical and health education. The reasons for this trend are:

1. Two closely related fields are brought together.
2. These two fields more nearly deal with all children all of the time.
3. Administrators find it best to deal with as few directors as possible, and still maintain maximum efficiency.
4. The two fields combined are cheaper to administer.

In the smaller school, where a full time director is not practical, it is suggested that at least one teacher be employed who has had physical and health education training sufficient to qualify as a part-time teacher of, and as an adviser in, the field of physical and health education.

Essential Characteristics.

The essential characteristics of the physical and health program are:

1. Healthful school living. (Health supervision.)
2. Health service.
3. Health instruction.
4. Safety Education.
5. Physical Education.

Health supervision is concerned with the hygiene and the sanitation of the school buildings, grounds, and equipment. This includes the supervision of

the gymnasium, classrooms, cafeteria, rest rooms, corridors, lavatories, toilets, drinking fountains, ventilation, heating and lighting, and water supply.

The department should supervise the health aspects of overloaded schedules, rest and activity periods, home work, transportation (particularly bus transportation), and all other conditions related to healthful school living.

Health Service. "Since children are educated in health through the experiences of certain services and activities, as well as through didactic instruction, health examinations and sanitary facilities must be considered as a means of education in health, together with health instruction."*

Health service includes periodic examinations by physicians and dentists, reports to parents, follow-up work for correction of defects, immunization program, clinics, first aid and safety. Teachers should make use of the findings of the examinations in adjusting the program to suit the physical needs of the pupils. This should be done through the cooperation of the various departments. It is essential that the physical education program and the health service program be closely co-ordinated in working out the activities to suit the needs of the pupils. The kind of activities and the amount of participation should be based on the physical condition of the child. Physically handicapped children ought to be given special consideration.

Health instruction is the teaching "of desirable health habits, skills, attitudes and knowledge of safety, sanitation, nutrition, physiology and hygiene, the effects of drugs and alcohol, social hygiene, mental hygiene, and other health needs."**

Health instruction is a definite responsibility of every teacher in the school even though special courses in health are taught. In the elementary schools, where the classroom teacher has the responsibility for health instruction, it should be a definite part of the daily program in addition to the instruction that is integrated with other school subjects. In the secondary schools some one should be responsible for co-ordinating all the health work, in order to provide a well-balanced program. Opportunities will be found in practically all of the subjects for health instruction, but subjects such as the social sciences, physical sciences, vocational subjects, music, and physical education provide the best opportunities for correlation. In addition to this incidental teaching of health, it is recommended that special courses be offered in health instruction.

Safety Education. For discussion see p. 148.

Physical Education. Physical Education is that phase of the program involving psycho-motor and big muscle activity. It is not, however, to be thought of separate and apart from the health program, or from the general educative program. The modern conception is that this important phase of school work is not only *education of the physical* but *education through the physical*. In other words, physical education is a means and not an end. There is no better opportunity in the whole school program for teaching right attitudes towards life and living than is afforded by the physical education program.

*Journal of Regents, State of New York, Appendix C, July 30, 1937.

**Williams and Brownell, *Health and Physical Education*. Barnes.

Major objectives of Physical Education:

1. Development of organic systems of the individual through physical activities.
2. Development of the neuro-muscular system in general, and particularly in its relation to control over certain fundamental skills.
3. Development of certain attitudes towards physical activity generally and towards play particularly.
4. Development of standards of conduct.*

Objectives

The objectives of a complete program of health and physical education are:**

1. "Adequate health examination and a comprehensive protection program for every school child, to include control of communicable diseases, healthful school environment, and hygienic standards in the entire curricular and extra-curricular life of the school.
2. "Adequate indoor and outdoor facilities in every school and adequate time in the curriculum.
3. "Co-ordination of community effort, in policies, finances and use of facilities for programs of health, physical education and recreation.
4. "Health and Physical Education instruction, based upon scientific materials progressively arranged throughout the grades and upper schools and directed toward personal accomplishments and social needs.
5. "Establishment of procedures for the scientific classification, grading and promotion of individuals to insure the best educative results.
6. "Professionally trained and accredited supervisors and teachers for all branches of the health and physical education program, including the coaching of athletic teams.
7. "Promotion of the idea of play and recreation as aspects of the finest living.
8. "The accreditation of health and physical education in all schools and colleges for graduation and the acceptance of such credits from high school for college entrance.
9. "The organization and administration of health and physical education in schools as a single executive department, closely integrated and thoroughly co-ordinated with the general purpose of education.
10. "Extension of the desirable and practical measures for the promotion of health and physical education among boys and girls in school to all members of the community as the broader implications of education are recognized."

Suggested Standards for a Physical Education Program***Time Allotment:***

There should be a minimum of two classes per week for all freshmen and sophomore pupils, a total of not less than ninety minutes per week for any pupil, exclusive of recess periods.

*Adopted by American Physical Education Association.

**Adopted by American Association of Health and Physical Education, a department of the National Education Association.

1. Interscholastic and intra-mural athletic contests and practice periods are recognized in lieu of class-work during the participation in the sport, provided the coach is a certificated instructor in physical education.

2. Hygiene or health instruction taught as a separate subject, or integrated with other subjects, is accepted as part of the ninety minutes.

Facilities and Equipment Recommended:

1. All high schools should have a gymnasium or suitable room for physical education.

2. All high schools should have a minimum of three acres for outdoor play space, and the large schools should have a minimum of ten acres.

3. Adequate lockers, showers, and locker-rooms facilities should be furnished to provide safe and sanitary conditions.

Program:

1. A physical examination of all pupils under the supervision of a licensed medical doctor, should be made at least once during the freshman year, preferably each year. A seasonal examination of those participating in interscholastic sports is necessary.

2. Health instruction should be provided for all pupils, amounting to at least the equivalent of one class per week for at least one year.

3. Suggested division of time allotment for the elementary grades:

a. Primary Level (Grades 1-3)—

(1) Rhythmical activities	25%
(2) Mimetic and story plays	20%
(3) Hunting games	20%
(4) Relays	15%
(5) Stunts and self-testing activities	10%
(6) Athletic games of low organization	10%

Total..... 100%

2. Grammar Grade Level (Grades 4-6)—

(1) Athletic games	30%
(a) Low organization.	
(b) Playground ball for boys— 6th grade.	
(2) Rhythmical activities (social games included)	20%
(3) Hunting games	10%
(4) Mimetics and free exercise	10%
(5) Relays	10%
(6) Tumbling stunts	10%
(7) Individual athletic events	10%

Total..... 100%

4. Suggested division of time allotment for the high school:

a. Program for the Junior High School (Grades 7-9)—

Core Program	*Elective Program (Boys—30 weeks) (Girls—36 weeks)
(1) Basketball (elementary) (2) Basketball (9 court) (3) Gym. drills, marching and apparatus (elementary) (4) Rhythms (elementary) (5) Softball (Playground) (elem.) (6) Soccer or Speedball (elementary) (7) Swimming and Diving (elementary) (8) Touch Football (elem.) (9) Track and Field (elem.) (10) Tumbling and pyramids (elementary) (11) Volleyball (elementary)	(1) Badminton (2) Boating (3) Golf (4) Handball (5) Hiking and Camping (6) Horseshoes (7) Paddle Tennis (8) Riding (9) Skating (10) Snow Shoeing (11) Social Games and Dances (12) Tennis (13) Wrestling (14) Restricted or Corrective Activities for Subnormal Cases *Elective program to be selected according to available facilities, devoting from 3-6 weeks to each activity.

b. Program for the Senior High School (Grades 10-12)—

Core Program	*Elective Program (Boys—36 weeks) (Girls—36 weeks)
(1) Basketball (advanced) (2) Gym. drills, marching and apparatus (advanced) (3) Field Hockey (4) Rhythms (advanced) (5) Soccer or Speedball (advanced) (6) Softball (playground) (adv.) (7) Swimming, Diving and Life Saving (advanced) (8) Touch Football (advanced) (9) Track and Field (advanced) (10) Tumbling and Pyramids (advanced) (11) Volleyball (advanced)	(1) Archery (2) Badminton (3) Boating (4) Bowling (5) Boxing (6) Camping (7) Fencing (8) Golf (9) Fly Casting (10) Handball (11) Hard baseball (12) Hiking (13) Horseshoes (14) Riding (15) Skating (16) Snow Shoeing (17) Social Dancing (18) Social Games (19) Squash (20) Table Tennis (21) Tennis (22) Water Polo (23) Wrestling (24) Restricted or Corrective Activities for Subnormal Cases *Elective program to be selected according to available facilities, devoting from 3-6 weeks to each activity.

Materials and References

The limited amount of space will not permit a complete bibliography of available pamphlets and books published on health and physical education.

Publication 174 and Publication 189, State Department of Public Instruction, Raleigh, N. C., contain references in addition to those given here.

A small pamphlet compiled for the American Association of Health and Physical Education, containing a selected list of inexpensive, some free, material can be secured by writing to the National Tuberculosis Association,

50 West Fiftieth Street, New York City. The names and addresses of the various publishers are given in this pamphlet.

A special bulletin on health and physical education is to be published by the State Department of Public Instruction within the next year, and will contain a more complete bibliography. Since this bulletin will give a suggested and tentative course of study, this section of the Handbook deals only with administrative problems and with general aims and objectives.

It is suggested that every school have on hand at least one copy, preferably one copy for each elementary teacher, of *Physical Education for Elementary Schools*, by Neilson and Van Hagen.

REFERENCES FOR ELEMENTARY CHILDREN—HEALTH EDUCATION

- Andress, J. M., and Others. *Health Series*. Ginn, 1933.
 Bigelow, M. A., and Broadhurst, J. *Health Series*. Silver, 1930.
 Brownell, C. L., Ireland, A. G., Towne, C. F., Giles, H. F. *Health and Safety Series*. Rand, 1935.
 Burkard, Chambers, Maroney. *Health, Happiness, Success Series*. Lyons, 1936.

REFERENCES FOR TEACHERS—HEALTH EDUCATION

- A Study in Curriculum Problems for North Carolina Schools*, Publication 189, State Superintendent of Public Instruction, Raleigh, 1935.
 Brock, G. D. *Health Through Projects*. Barnes. \$2.00.
Report of Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. National Education Association, Washington, D. C., 1930. \$1.25.
 Rogers, J. F. *Instruction in the Effects of Alcohol and Tobacco*, Leaflet 38. United States Department of Interior, Washington, D. C.
 Williams and Shaw. *Methods and Materials of Health Education*, Barnes, 1937. \$2.00.
 National Education Association, *Principles and Practices in School Health Education*. Washington, D. C., 1935. \$1.50.

REFERENCES FOR TEACHERS—PHYSICAL EDUCATION

- Neilson and Van Hagen. *Physical Education in Elementary Schools*. Barnes, 1934. \$2.00.
Twice 55 Games with Music. Birchard. 75¢.
 State adopted texts for music.
American Red Cross First Aid Textbook. Blakiston. \$1.00.
 Committee on Dancing of American Physical Education Association. *Dancing in the Elementary Schools*. Barnes, 1932. \$1.00.
 Pearl and Brown. *Health by Stunts*. Macmillan.
 Williams and Brownell. *Administration of Health and Physical Education*. Saunders, 1937.
 Spalding's *Athletic Library*. American Sports Pub. Co., 45 Rose St., New York.
 Bancroft, J. H. *Games for Playground, Home, School, and Gymnasium*. Macmillan, 1937. \$2.40.
 Staley, S. C. *Games, Contests, and Relays*. Barnes, 1924.
 Bovard and Cozens. *Tests and Measurements in Physical Education*. Saunders, 1938.

THE BEGINNERS' DAY PROGRAM

The Beginners' Day Program is a State-wide project planned for the purpose of securing information concerning the child at school entrance and to interest the child in school. This information is helpful to the teacher and the parents in determining the child's needs and in their efforts to get the child physically ready for school. Normal progress for the child through the first year's work is assured to a greater extent when the teacher and

parents have a better understanding of the child's present equipment and needs.

In cooperation with the Parent-Teacher Association a one-day program is planned and held during the spring term in centrally located schools while they are in session. Parents bring the child to the school for enrollment, for examinations, and for introduction into first grade work.

In making provision for the spring health examination of the school beginner, the first grade teacher has a most unusual and most important opportunity to become acquainted with the present equipment and needs of the individual children who will enter the first grade in the fall. In realizing more fully this opportunity, the following suggestions may be helpful:

1. Read carefully the contents of the bulletin entitled "The Summer Round-Up of the Children" published by the National Congress of Parents and Teachers, Washington, D. C.
2. Note or check the items in the program as set forth in the bulletin which offer you an opportunity to assist in developing the plans.
3. Inquire about the plans (see the principal and superintendent) for your school and assist in getting together P. T. A. committees to plan the Beginners' Day Program for your school. Plan a brief meeting for principal, superintendent, and all first grade teachers in your school for the purpose of studying the contents of the bulletin and in making definite plans.
4. Canvass the names of the beginners who will enter school in the fall and visit as many of the homes as possible, urging the parents to bring the child to the school for the Beginners' Day Program.
5. Begin to make definite plans for the Beginners' Day in your school. Important items in the program are as follows:
 - a. Preparation for spring health examination at the school. Who is to assist? Equipment needed? Rooms available? Number of children to be provided for?
 - b. Enrollment of beginners. The first grade teacher should have charge of this part of the day's program in order to meet the parents and the child and secure all possible information from the parents about the child. (Use "Information Card for the School Beginner"—the yellow card). Keep this card in the record files.
 - c. Physical examination. When the teacher has interviewed the parents and enrolled the beginners, then the health officials make the physical examinations, recording data on the "Medical Record Form." (See copy on pages 8 & 9 of the Summer Round-Up bulletin.) Vaccinations and toxin-anti-toxin are administered, if desired by parents.
 - d. Beginners who have already been examined by their family physician and dentist should attend the Beginners' Day Program and bring with them the blanks on which the facts of the examinations were recorded.
 - e. While children are visiting classrooms, the parents assemble in the auditorium for lectures on various phases of child care and training.
 - f. Mental tests administered at this time are very helpful as the results may be used in the classification of beginners for next year's work. The Pintner-Cunningham Intelligence Test and The Detroit Kindergarten Intelligence Test are recommended. A Story-Hour is a very good introduction to the testing period.
 - g. Visits are made to first grade room by parents and children. Favors to take home are provided.
 - h. The information assembled on the Medical Record Forms is reviewed and such items as the teacher considers helpful are transferred to the "Information Card for the School Beginner." This card should be on file for reference in organizing the program to meet the needs of children entering the school in the fall. The facts on this card will be helpful in:
 - (1) Getting a fair picture of the total child situation which includes:
 - (a) A brief family history as a background.
 - (b) The child's present physical, mental, and social equipment.
 - (2) Properly classifying the pupil at the beginning of the school year.
 - (3) Working out an adaptation of the course of study to meet the needs and interests of the individual pupils. For example, the immature beginner needs a program of activities planned to develop a readiness for first grade work, while the more mature pupil can begin formal work in a short time.
 - (4) Establishing a record system which implies child study and a program which tends toward a better understanding of the school beginner.

The situation in regard to the school entrant, stated briefly, has been that he was enrolled in school and led through a series of experiences without adequate or due regard for his readiness to profit by these experiences in terms of normal child growth and development, which, according to the facts concerning the percentage of retardation in the first grade, has resulted in

failure for a large number of children enrolled the first year of school. This group of children must be provided for either at the beginning of the school year or after they have met with failure and discouragement time after time. By the plan suggested here the teacher has a better understanding of the pre-school child applying for entrance into the first grade. The teacher has a much better basis for making curriculum adaptations and program adjustments to meet the varying needs of the individual children. The beginner has a much better chance for a successful year's work.

Any inquiries relative to the Beginners' Day Program should be addressed to the Division of Instructional Service.

SAFETY EDUCATION

The Responsibility of the School

It is a duty and a responsibility of the school authorities to provide opportunities for the acquisition of knowledge, skills, habits, attitudes, and appreciations which will lead to intelligent, safe living.

From an administrative standpoint, safety and health education present very much the same problem. Situations that are healthy are generally safe, and *vice versa*. In working out methods and procedures for curriculum study, school officials may quite properly combine health and safety. By safety, in this particular instance, we are referring to the sum total of school experiences which have to do with protection of the individual and society against physical hazards. From an educational point of view it is of startling significance, yet encouraging, to note that most accidents are preventable. The three major causes of accidents may be classed as follows: (a) Carelessness; (b) Lack of skills; (c) Lack of knowledge (applied knowledge).

Safety Content

The content of the safety curriculum should be based upon certain fundamental criteria, namely:

1. Recognition of the principle that education is concerned with the whole personality.
2. Acceptance of the principle that we learn best by doing.
3. Acceptance of the principle that the aim of safety education is identical with the aim of general education.
4. Adaptation of the program to the nature and needs of children at the various stages of development.

A Balanced Program of Safety Education

A program based on the above criteria will be well balanced. The needs of the pupils will be determined by a study of:

1. The accidents that are killing and injuring children of school age.
2. The activities involving hazards in which children engage.
3. The safety activities provided by society for the protection of life and property.

We know from a study of data on accidents* that the school age, especially the high school age, is one of the dangerous periods of life. Three kinds of accidents, those resulting from drowning, firearms, and recreational activities,

*Data may be secured by writing the National Safety Council, 1 Park Ave., New York, N. Y.

reach their peak during the adolescent period, while traffic accidents reach a peak just above the school age.

For a complete and well-rounded program of safety education, we must recognize the importance of safety education in every phase of life in which there are physical hazards. Knowledge, habits, and attitudes of safety must be developed in relation to:

- | | |
|--------------------|----------------|
| 1. The automobile. | 5. Athletics. |
| 2. The highway. | 6. Recreation. |
| 3. The home. | 7. Occupation. |
| 4. The school. | |

Objectives of the school safety program:*

1. Provide experiences through the curriculum which will develop the knowledge, skills, and appreciation of safety essentials needed to prepare pupils to cope with the hazards of modern life.
2. Provide and maintain safe and sanitary school buildings, grounds, and equipment needed for a safe and healthful environment.
3. Reduce to a minimum the dangers and discomforts of bus transportation.
4. Cooperate with agencies and organizations whose programs for safety education are based upon sound educational principles.

A complete program will include two kinds of activities: first, the curricular, and second, the extra-curricular activities.

Activities involving development should continue through the whole school period. In the secondary school the problem of correlation becomes more difficult.

No single department can provide an adequate program for the entire school. The physical education department, in many instances, includes safety as a part of the program in the same way as the health education, by assisting other departments in the school in organizing instructional materials for various subjects. Subjects richest in opportunities for safety education include health education, physical and social sciences, vocational subjects, and physical education.

Safety precautions include:

1. Frequent inspection of all facilities.
2. Careful supervision of activities.
3. Attention to game rules.
4. Teaching of, and practice in, safety and first-aid measures.

First Aid for the Injured

First aid is so closely related to safety education that it should be considered in planning a program of safety education. It is important that all children know what to do when some unexpected accident occurs. There are many excellent pamphlets and bulletins dealing with first-aid, which give complete instructions on methods, materials, and techniques. An outline of such procedures are, therefore, omitted from this bulletin. Standard books on health education contain excellent materials on first aid; the American Red Cross and most of the better known insurance companies publish splendid and complete materials on this subject, which can be secured at little or no cost.

*These objectives closely follow those of the National Safety Council.

MATERIALS FOR TEACHING SAFETY

- Health and Citizenship.* Publication 174, State Superintendent of Public Instruction, Raleigh, N. C.
- Whitney. *Man and the Motor Car.* National Bureau of Casualty and Surety Underwriters, 1 Park Avenue, New York.
- Accident Facts.* National Safety Council, New York. 50¢.
Annual statistical report giving the most recent tabulated data on accidental deaths.
- A Guide-Book for Safety Education.* National Bureau of Casualty and Surety Underwriters, New York, 1931. 15¢.
A course of study in safety education for elementary and secondary schools.
- Payne. *Education in Accident Prevention.* Lyons, 1919. \$1.00.
Plan for correlating safety with regular course of study in elementary schools.
- Good Driving. A Manual for the High Schools.* Education Division, National Safety Council, New York, 1934. 25¢.
Outlines methods of organizing programs of instruction and presents subject matter content on various aspects of automobile driving.
- Joint Committee of National Education Association and American Medical Association. *Health Education.* National Education Association, Washington, D. C., 1930. \$1.25 (paper); \$1.75 (cloth).
A program for public schools and teacher training institutions.
- DeBlois. *How the Safety Movement Began.* Education Division, National Safety Council, New York, 1934. Single copy free. \$3.50 per 100 copies.
A brief history of the safety movement in relation to industry.
- Vaughn. *Positive Versus Negative Instruction.* National Bureau of Casualty and Surety Underwriters, New York, 1933. 60¢.
An experimental study of the effects of various types of instruction on behavior.
- Rogers. *Safety and Health of the School Child.* Circular No. 65, Office of Education, U. S. Department of the Interior, Washington, D. C. 1932. Single copy free. 5¢ for each additional copy.
A self-survey of school conditions.
- Whitney. *Safety and the New Schools.* Education Division, National Safety Council, New York, 1935. Single copy free. \$4.00 per 100 copies.
An education for a controlled world.
- Streitz. *Safety Education in the Elementary School.* National Bureau of Casualty and Surety Underwriters, New York, 1926. 60¢.
An example of procedure for developing a course of study.
- Safety Education in the Rural School.* Education Division, National Safety Council, New York, 1929. Single copy free. 25¢ each additional copy.
A manual for the teacher dealing with the accident problem in rural communities.
- White House Conference on Child Health and Protection. *Safety Education in the Schools.* Appleton-Century. 60¢.
Contains successful methods of administering safety education, materials and methods of teaching, extra-curricular activities, etc.
- Stack. *Safety Education in the Secondary Schools.* National Bureau of Casualty and Surety Underwriters, New York, 1929. \$1.00.
Objectives and materials of instruction for secondary grades.
- Lloyd. *Safety in Physical Education in Secondary Schools.* National Bureau of Casualty and Surety Underwriters, New York, 1933.
A study of accidents in public and private schools.
- Hyde and Slown. *Safety Programs and Activities.* Beckley, 1935. \$1.25.
A handbook of safety activities and monthly programs for elementary and junior high schools.
- School Buses—Their Safe Design and Operation.* National Safety Council, New York, 1933. 15¢.
- Safety Education in the School Shop.* Bulletin 226. Superintendent of Public Instruction, Lansing, Mich., 1931. 15¢.
Twenty-two problems describing situations in school shops; and an accident prevention test.

GUIDANCE

The subject of Guidance has been treated in the Course of Study. Need for recent material on guidance prompts the inclusion of the following brief list (See also *State Adopted High School Textbooks—Supplementary Use*):

BIBLIOGRAPHY

Guidance Bibliography, 1935, 1936, 1937. U. S. Office of Education. 10¢ each.

An annotated list of books, pamphlets, and periodical references on guidance appearing each calendar year.

VOCATIONAL GUIDANCE

Chapman. *Occupational Guidance*. Turner E. Smith.
 Reilly. *How to Find and Follow Your Career*. Harper.
 Rosengarten. *Choosing Your Life Work*. McGraw.
 Stoddard. *Discovering My Job*. Nelson.

PERSONAL GUIDANCE

Bennett and Hand. *School and Life*. McGraw.
 Bennett and Hand. *Designs for Personality*. McGraw.
 Bennett and Hand. *Beyond High School*. McGraw.
 These three books contain excellent bibliographies.
 Brockman. *What Is She Like?* Scribner.
 Hill and Mosher. *Making the Most of High School*. Laidlaw.
 Prosser. *Life Adjustment Publications*. McKnight.

Five pamphlets in the group.

Shellow. *How to Develop Your Personality*. Harper.
 Stevens. *The Correct Thing*. Dodd.
 Stevens. *The Right Thing*. Dodd.
 Weiman. *Popularity*. Willett.

MUSIC

The Music Appreciation Course for Grades I-VII

The purpose of this outline is to offer teachers definite information concerning (a) suitable materials for conducting a course in music appreciation for grades one through seven, and (b) suggestions for selecting, promoting, and adapting the course to the needs of these grades.

The course in music appreciation, to be of the greatest value in the education of the child, should be introduced early in the grades, beginning in the first grade and carried along regularly and continuously through a unified course for all the grades. Intensive, spasmodic, or intermittent work along this line may be wasteful and harmful. It is best to determine the type and amount of work to be done with the available materials and equipment, and plan definitely to give regular instruction in music appreciation in each of the grades at definitely stated periods during the day.

The State Course of Study, *Publication 189*, contains a brief section on music which includes suggestions for developing the appreciation of good music. (See pages 480-488.) The contents of this course supplement and complement the State Course of Study.

Publication 198, The North Carolina Music Bulletin, contains suggestions for introducing the Music Hour Series into the schools and integrating the contents of the texts with the course of study outlines in music, including music appreciation.

The yearly achievements in music appreciation are dependent upon careful

training over a period of several months; therefore, the course in music appreciation should begin early in the year and continue through the school term.

With the material now at hand each school should develop a first class course in music appreciation in which all pupils may participate with lasting benefits.

GENERAL SUGGESTIONS

I. Concerning this Course of Study and Procedures in Teaching:

Music appreciation means enjoyable and intelligent listening to good music.

Teaching music appreciation means stimulating and developing such listening by all the children until it becomes habitual. To accomplish this, the children must first "learn to listen" and then "listen to learn."

Learning to listen includes learning good concert manners—quiet, attentive listening to the radio or the phonograph just the same as though the artist were present in person. The teacher's attitude and example are the best means of teaching this. There should be *no* talking during a musical selection.

Provide a definite period for the listening lesson each week and have a definite aim for each lesson. The children should be expecting the listening lesson at its allotted time and be ready for it.

Each child should participate actively in each lesson. The listening lessons should be for the benefit of all.

Plan each lesson carefully to insure a continued and unified course through the school term. Make sure that every topic in this Course of Study is covered, and integrate the music appreciation work with the other school subjects and with the children's home life as much as possible.

Use readers, texts, and manuals suggested for reference, having the children do all this reading possible, following their reading with reports to the class.

Schools equipped with radio receiving sets should provide for a "listening in" period during the presentation of worthwhile and suitable musical programs.

A music appreciation notebook could be made by each child. In this he will record outstanding items regarding each piece of music studied and interesting facts learned while studying each topic. In this notebook several pages should be devoted to a growing list of musical terms and expressions commonly used, and their meanings.

Current musical events can be used to vitalize the course in music appreciation and to integrate this work with the child's home life. One good way of conducting this type of work is to use the current musical events in oral English recitations once in two weeks or to have them given during opening exercises once each two weeks. Each child should be expected to contribute at least one item each month.

II. Concerning Equipment and Materials.

A course of study in music appreciation calls for certain definite types of equipment and materials.

An excellent phonograph for classroom or school use should be selected.

Write the Columbia Phonograph Co., 1819 Broadway, New York City, or R. C. A. Victor Co., Inc., Camden, N. J., for cuts and prices of phonographs. A first-class portable phonograph is now available at the low price of \$35.00. Phonographs and records are offered to schools at a twenty per cent discount.

A Unit of Records. In selecting the records for the course it is desirable to provide materials which are well-graded and suited to the teaching of the various topics in this Course of Study, and at the same time offer the best music for "listening lessons."

Reference books and manuals for the teacher are essentials to success in developing the music appreciation course. The procedures in teaching music appreciation include singing, playing an instrument, listening to good music, responding with rhythmic movement to music, reading new music, reading or hearing about musicians. The reference books and manuals listed in this Course should be available.

A committee to work out plans for better care of the music appreciation materials and equipment is essential in the separate schools. It seems practicable for each school to appoint a committee of one or two members of the faculty, preferably the special music teacher or those in charge of the program of music appreciation, whose duties and responsibilities in this regard may be definitely outlined by the members of the committee and the school principal. The phonograph should be handled very carefully, if it is to give good service for a number of years. The records and other materials should be carefully handled when in use and properly filed when not in use. Other musical equipment in the school—the piano, instruments of the orchestra or band—should be used in addition to the phonograph in the music appreciation work, and these should be given the best of care.

Write to the National Broadcasting Company, Inc., R. C. A. Building, Radio City, New York, for a copy of the *Instructors' Manual of the N. B. C. Music Appreciation Hour*. Price of manual is 25¢. This manual presents the Walter Damrosch music course, consisting of concerts and "listening lessons" in music. The course is given on Friday, beginning in October of each year.

INTEGRATION

The children's experience in music appreciation need not and should not be isolated and separate from their other classroom and home experiences. It should be a part of their total experience—contributing its part to the completeness, beauty and richness of that experience, and receiving support and enrichment from all other phases of that experience.

The binding links between music and other school activities are many, but some are more obvious than others. In this outline reading, picture study, drawing, and creative expression through pictures, design, and poetry are prominent among the activities suggested for the children of each grade.

In developing units of study in the various grades, it should be kept in mind that music may often form an important part of the unit, sometimes providing the vitalizing folk expression and interpreting the spirit and feeling of the people as no other means of expression can interpret them. This refers especially to units based on the social studies.

In addition to these obvious links, new words are added to the child's vocabulary through music appreciation, and these may contribute to dictionary habits as well as spelling activities. Music topics of interest encourage the use of reference materials and habits of investigation, and current events in the musical world help to round out the child's acquaintance with national and world affairs and to broaden his cultural and leisure-time interests.

Since a large number of homes have radios, it is possible to integrate the music interest initiated at school with the home life of the children more than has been possible in the past. The children—especially from the third grade on—should be kept informed regarding the really good musical programs that can be heard, keeping the day and hour of various ones posted in the classroom. This should include programs not intended for children, as well as those planned especially for children. The Damrosch programs, on the N. B. C. network on Fridays, are very valuable, especially for fourth grade and above. Teachers should bear in mind that it is entirely feasible to integrate these programs into their music work without using the manual and notebooks that the Broadcasting Company publishes. It would be helpful to the teacher to have a copy of each, however.

The newly adopted music texts used in the elementary grades, the Music Hour Series, provide many rich experiences in folk music and in making friends with great composers. The pupils in the schools of North Carolina should find their music study a richer and broader experience than ever before, and should become, in truth, intelligent music lovers.

COURSE OF STUDY

Ultimate Objectives (for all grades):

1. Awakening and developing an interest in and enjoyment of good music as experienced through participation and listening.
2. A growing power to discriminate between worth-while and trashy music, and a preference for the better music.
3. An increasing desire to participate in musical activities.

GRADES I AND II

I. Immediate Objectives:

1. Development of good habits of listening, such as: attentive listening, discriminative listening, imaginative listening, and remembering listening.
2. Increasing pleasure in listening to music, in responding to rhythm, and in participation through singing and through playing in rhythm band.
3. Development of sense of rhythm through recognition and through bodily response to various types of rhythm.
4. Development of ability to recognize some very simple descriptive effects in music.
5. Ability to recognize phrases in simple music and to indicate the duration of each phrase by a large arm movement. Second grade only.

II. Suggested Activities:

1. Rhythmic activity—clapping, marching, swaying, galloping, skipping, etc., with music of piano or phonograph.

2. Simple singing games and folk-dances with piano or phonograph.
3. Playing in rhythm band.
4. Hearing stories of descriptive music that is to be heard on piano or phonograph.
5. Finding or drawing pictures that illustrate descriptive music that has been heard.
6. Phrasing music heard—showing by large arm movement the phrases in short, simple pieces of music on piano or phonograph. (Second grade only.)

III. Materials:

1. Piano music for rhythmic activities:
 - a. *Music Hour in the Kindergarten and First Grade*. Silver.
 - b. *Play a Tune*, World of Music Series. Ginn.
 - c. Hollis, Dann. *First Year Music*. American.
2. Piano music for phrase sensing:
 - a. *Music Hour in the Kindergarten and First Grade*. Silver.
 - b. *Play a Tune*, World of Music Series. Ginn.
3. Phonograph records for rhythmic activities (Victor Records): Nos. 20451, 20736, 20153, 20162, 22764, 22168.
4. Phonograph records for singing games and dances: Nos. 20806, 21618, 20214.
5. Phonograph records for rhythm band: Nos. 22168, 21938, 20164.
6. Phonograph records for phrase sensing: Nos. 22178, 22179.
7. Phonograph records for descriptive music: Of a Tailor and a Bear—20153; In a Clock Store—35792; The Music Box—22167; Brer Rabbit—22161; The Bee—20614.
8. Manuals—Music Hour Series. Silver.
 - a. *Music in Kindergarten and First Grade*, Book I. Manual—pages 81-96, 185-189
 - b. *Elementary Teachers Book*. Manual—pages 13-19, 81-87, 92-96.

GRADE III

I. Immediate Objectives:

1. Continued development of good habits of listening.
2. Increasing pleasure in listening to music, and in desire to participate.
3. Continued development of sense of rhythm.
4. Continued development of ability to recognize and to enjoy descriptive effects in music heard.
5. Continued development of skill and pleasure in phrase sensing, and in measure and meter sensing.
6. Ability to recognize repeated phrases in songs sung and in music heard, including music used for rhythm band.
7. Familiarity with a few orchestral instruments, such as violin and flute.

II. Suggested Activities:

1. Continued rhythmic activities, including singing games and folk-dances, as needed to develop feeling for rhythm, and pleasure in rhythmic expression.
2. Hearing and reading stories of descriptive music that is to be heard.
3. Finding or drawing pictures that illustrate descriptive music that has been heard.
4. "Hunting the Tune"—after becoming familiar with the main theme of the composition heard, "finding" it every time it recurs, and indicating by raising hand.

5. Making simple designs to illustrate the recurrence of a theme in music that has been heard.
6. Finding or making poems that illustrate descriptive music that has been heard.
7. Make-believe violinist—playing violin in pantomime when it is heard in music. Similar game for flute.
8. Making posters or scrap-book of instruments studied.
9. Phrase sensing, as in earlier grades.
10. "Finding the ones"—measure sensing and meter sensing, using simple music on phonograph or piano. Measure and meter sensing may be done by clapping, stepping, or drawing on board, as follows:
2 beats in measure—lililililil; 3 beats in measure—lililililililil;
4 beats in measure—lilililililililil.
11. Listening quietly and without comment to beautiful music (short selections) for pure enjoyment.

III. Materials:

1. Piano music for rhythmic activities from books suggested for grades I and II, including phrase sensing, meter sensing, and measure sensing.
2. Piano music for recognition of recurring themes from books suggested for grades I and II.
3. Phonograph records for rhythmic activities, phrase sensing, and measure and meter sensing, same as suggested for grades I and II. For measure sensing, add Nos. 22168 and 22178.
4. Phonograph records for recurring themes: Amaryllis—Ghys—20169; Le Secret—Gautier—20416.
5. Descriptive music: Spinning Song—Kullah—20153; Whirlwind—Krantz—20525; Dancing Doll—Poldini—20668; To a Humming Bird—MacDowell—20803; From Uncle Remus—MacDowell—20803.
6. For recognition of instruments:
 - a. Violin—The Bee—Schubert—20614; To a Wild Rose—MacDowell—22161.
 - b. Flute—Whirlwind—Krantz—20525; By the Waters of Minnetonka—Lieurance—21972.
7. Manuals, Music Hour Series. Silver. *Elementary Teachers Book*. Manual. Pages 13-19, 87-91, 92-93, 96-98.

GRADE IV.

I. Immediate Objectives:

1. Continued development of good listening habits.
2. Continued development of sense of rhythm.
3. Continued development of ability to recognize and to enjoy descriptive effects.
4. Continued development of feeling for balance of phrases, and for design in music, growing out of continued development of skill in recognition of recurring and contrasting phrases and themes.
5. Familiarity with a larger number of orchestral instruments, by sight and by sound.
6. Acquaintance with a few of the great composers through their music and through stories about them.
7. Development of a feeling for the close relationships between the arts through relating music to suitable pictures and poems.
8. Familiarity with a few simple dance forms—as march, waltz, minuet, and gavotte.

9. Development of the feeling of the universality of music as part of the life experience of every people, through integration of folk songs, folk dances, and readings about the music and musical instruments of each national group of people studied in units based on the social studies.

II. Suggested Activities:

1. Continuation of activities 1, 2, 3, 4, 5, 6, 7, and 8 as given for Grade III.
2. Playing "Make-Believe Orchestra"—groups of children playing in pantomime the instruments assigned, by groups, when heard in music.
3. Reading stories about Mozart and MacDowell.
4. Singing songs by Mozart.
5. Making posters or scrap-books about Mozart and MacDowell.
6. Writing and presenting a play about Mozart or MacDowell.
7. Finding or drawing pictures that express the same feeling or mood as music being studied.
8. Finding or writing poems that express the same feeling or mood as the music being studied.
9. Playing "Who is Dancing?"—recognizing the kind of dance when hearing one, using marches, waltzes, minuets, and gavottes.
10. Learning folk songs and folk dances of peoples studied in units based on social studies.
11. Reading about the uses of music, and the musical instruments made and used by the various peoples studied. If feasible, one or more musical instruments should be made in imitation of those pictured in books read.

III. Materials:

1. Use any materials from the third grade list that are suitable.
2. Phonograph records for recurring themes: To third grade list add—*Ecossaises*—Beethoven—21012.
3. **Orchestral Instruments:** To third grade add the following:
 - a. *Piccolo*—*Soldiers Changing the Guard*—6874.
 - b. *Flute*—*Whirlwind*—Krantz—20525; *Wind Amongst the Trees*—Briccialdi—20344.
 - c. *Oboe*—*Morning*—Grieg—35793.
 - d. *Trumpet*—*Soldiers Changing the Guard*—6874.
 - e. *Harp*—*Gavotte*—Thomas—20443.
 - f. *Violin*—*Minuet*—Beethoven—1434.
 - g. *Violoncello*—*The Swan*—Saint-Saens—1143.
 - h. *Instruments of Orchestra*—20522 and 20523.
4. **Music of MacDowell:** To a *Wild Rose*—22161; Of a *Tailor and a Bear*—20153; Of *Brer Rabbit*—22161; To a *Water Lily*—22161; From *Uncle Remus*—20803; To a *Humming Bird*—20803; A *Deserted Farm*—22161.
5. **Music of Mozart:** *Minuet*—20990; *Turkish March*—1193; *Ländler*—24528.
6. **Descriptive Music:** All of the MacDowell pieces listed under D; *William Tell Overture*—Fossini—20606, 20607.
7. **Dances:**
 - a. *March*—*Turkish March*—Mozart—1193; *March* Hollaender and others—22168.
 - b. *Waltz*—*Dancing Doll*—Poldini—20668; *Waltzes*—Brahms—22374.
 - c. *Minuet*—*Minuet*—Beethoven—1434; *Minuet*—Mozart—20990.
 - d. *Gavotte*—*Gavotte*—Thomas—20443; *Amaryllis*—Gyhs—20169.
8. **Manuals—Music Hour Series.** Silver. *Intermediate Teachers Book.* Manual. Pages 3, 4, 23-27, 34-37, 52-53, 54-62, 78-92, 97-113.

GRADE V

I. Immediate Objectives:

Same as for Grade IV with the following additions:

1. Acquaintance with the music of Mendelssohn and Grieg, and some knowledge of the men and their lives.
2. Familiarity with the Mazurka in addition to other dances.

II. Suggested Activities:

Same as for Grade IV.

III. Materials:

Same as for Grade IV with the following additions:

1. Recurring themes: Rondino—Beethoven—1386.
2. Orchestral Instruments:
 - a. Clarinet—Light Cavalry Overture—von Supper—21251.
 - b. Bassoon—Clowns—Mendelssohn—19882.
 - c. Trombone—Light Cavalry Overture—von Suppe—21251.
 - d. Harp, Violin and Cello—At the Brook—Boisdeffre—20344; To a Wild Rose—MacDowell—20894.
 - e. Violin, Flute, Cello, and Harp—Spring Song—Mendelssohn—20195; Gavotte—Mignon—Thomas—20443.
3. Music of Mendelssohn: Spring Song—20195; Spinning Song—1326; Overture, Midsummer Night's Dream—6675, 6676.
4. Music of Grieg: In the Hall of the Mountain King—20245; Anitra's Dance—20245; Morning—35793; March of the Dwarfs—22177.
5. Dances:
 1. Mazurka—La Czarina—Ganne—20430.
 2. Anitra's Dance—Grieg—20245.
6. Descriptive Music: In the Hall of the Mountain King—Grieg—20245; March of the Dwarfs—Grieg—22177; Spinning Song—Mendelssohn—1326; Spring Song—Mendelssohn—20195; Midsummer Night's Dream Overture—Mendelssohn—6675, 6676.
7. Manuals—Music Hour Series. Silver.
 1. *Intermediate Teachers Book*. Manual. Pages 3, 4, 23-38, 34-37, 52-54, 56-62, 78-92, 97-113, 77.

GRADES VI AND VII

I. Immediate Objectives:

1. Continued development of intelligent listening habits.
2. Continued enjoyment of the rhythmic and descriptive elements of music heard or sung.
3. Development of knowledge and enjoyment of form in music, including repetition and balance of phrases and themes, and for design in both small and larger forms, including the rondo, theme and variations.
4. Familiarity with all orchestral instruments by sight and by sound, and acquaintance with much orchestral music illustrating the composer's use of the various instruments.
5. Acquaintance with several great composers through their music and through reading about them. (Beethoven and Grieg in addition to those named for Grades IV and V.)
6. Development of a feeling for the close relationships between the arts—through relating music to suitable pictures and poems, and through self-expression in poem, design, or picture of the mood, of the picture, or of the form in the music.
7. Development of the feeling of the universality of music as part of the life experience of every people, through integration of folk songs, folk

dances, and readings about the music and musical instruments of each national group of people studied in units based on the social studies.

8. Familiarity with the Polanaise, Tarantella and Bolero, in addition to other dances studied in earlier grades.
9. Attainment of such factual knowledge as is necessary for an intelligent enjoyment of good music, such as: (1) knowledge of the stories connected with many pieces of descriptive music; (2) the construction of the simpler musical forms; (3) meanings of the more commonly used musical terms and expressions; (4) knowledge of important musical current events, especially those taking place in America, including broadcasts of good music.

II. Suggested Activities:

Special Note—If students have studied Music Appreciation for one or more years, many of these activities will not be needed.

1. Rhythm:

If rhythmic training is needed, find some sort of rhythmic response pupils will enjoy making while hearing the music. Since the ordinary methods used in the primary grades are inappropriate for these grades, each teacher will determine the activity most enjoyable for her class. The following suggestions are offered:

- a. Using the fingers for feet in marching, the hands for swaying, etc.
- b. "Playing Conductor"—students (in groups or individually) indicate, using fairly large arm movements, the tempo and movement of the music. This can lead to students taking turns leading the class while singing.
- c. Drawing a simple border design or figure, with pencil or chalk, making a line with each beat or "swing" of the rhythm. Before drawing decide what sort of lines will be appropriate for the music being studied.

2. Descriptive Music:

Note—If hearing descriptive music is a new experience any of these suggestions will be appropriate, but if the students have heard considerable descriptive music, use the activities that they prefer or suggest.

- a. Search in books for the story or for any suggestions about what the music describes or suggests:
- b. After hearing the music several times,
 - (1) Write or tell the story as you (the individual pupil) understand it from the music. (Pupils' ideas may vary widely.)
 - (2) Write or give a description of the picture or mood the music suggests to you. (The individual pupil.)
 - (3) Find or draw a picture or series of pictures telling what the music tells you.
 - (4) Find or write a poem that tells the same story or pictures the same scene or mood that you find in the music.
 - (5) Make a poster about the music. (A class project).
 - (6) Dramatize the story told by the music, if it is appropriate for dramatization.

3. Form:

- a. If needed, provide experience in recognizing similar phrases, as follows:
 - (1) "Hunting the Tune"—after becoming familiar with the main theme of the composition heard, "finding" it every time it recurs, and indicating by raising hand.
 - (2) Making simple designs to illustrate the recurrence of a theme

in music that has been heard, or finding designs that illustrate such reference.

- b. Make a scrapbook about the musical forms studied. (A class project.)
 - c. Find pictures, designs, or illustrations of examples of architecture that illustrate the forms studied; for instance, a building with two identical wings is like the Three-Part Song form—ABA.
 - d. Make or find designs illustrating the rondo, theme and variations.
4. The Orchestra and Its Music:
- a. Make a chart showing the instruments of each family or section as one group.
 - b. Make a seating plan of a symphony orchestra, showing where the players of each sort of instrument are seated. On this seating plan can be made a model of an orchestra. Chairs may be made of cardboard or wood, players and conductor of paper or some plastic material; or pictures of the players can be cut out of published sheets, or drawn and cut out and mounted on the seating plan.
 - c. Find pictures of the different instruments of each family or section and make a poster for each family; or make a scrapbook (as a class project), mounting each picture on a separate page and writing a description of the instrument on the opposite page.
 - d. Have a "make-believe" orchestra. To various pupils are assigned the instruments heard in the music chosen, and during the playing each pupil plays his instrument in pantomime when he hears it in the music.
5. Composers:
- a. Read stories about composers studied.
 - b. Sing songs and hear compositions written by these composers.
 - c. Make scrapbooks or write and give plays about these composers.
 - d. Give a program for other grades to hear, made up of music and stories concerned with these composers.
6. Dances:
- a. Play "Who is dancing?"—recognizing the kind of dance when hearing one, using dances studied in earlier grades as well as the Polonaise, Tarantella and Bolero.
 - b. Learn to dance as many as possible of the dances studied in all the grades.
 - c. Find or write a poem about each kind of dance and read to the class. These poems may also be used in a scrapbook or on a poster about dances.
7. Folk Music:
- a. Sing folk songs of countries studied in units based on social studies.
 - b. Learn folk dances of these countries.
 - c. Dramatize folk songs that are suitable for this purpose.
 - d. Read about the uses of music in these countries and about the instruments made and played by the people, find pictures of the instruments, and, if possible, make one or more of them.
 - e. Listen to folk music played on the piano or phonograph—especially songs and dances not suitable for these pupils to perform; and listen to music of composers who have used folk music in their compositions.

III. Materials:

Use music from lists for earlier grades whenever suitable, especially when similar activities are used, and when music appreciation is a new experience for the pupils.

In addition use:

1. Descriptive Music: At the Brook—Boisdeffre—20344; Wind Amongst the Trees—Pricialdi—20344; Flight of the Bumble-Bee—Rimsky-Korsakow—1645; Nutcracker Suite—Tschaikowsky—8662, 8663, 8664; Music Box—Laidow—19923; Carnival of the Animals—Saint-Saens—7200, 7201, 7202.

2. Form:
 - Rondo—Hummel-Heifetz—8420.
 - Theme and Variations—Variations on Shepherds Hey—Grainger—20802; Caprice—Paganini—1650.
3. Orchestra (in addition to lists for earlier grades):
 - Ensembles—strings and wood-winds—19923.
 - Ensembles—brass and small combinations—20637.
 - Various combinations of instruments—19926, 20150.
 - William Tell Overture—20606, 20607.
 - Nutcracker Suite—8662, 8663, 8664.
 - Midsummer Night's Dream Overture—Mendelssohn—6675, 6676.
4. Composers:
 - Music of Beethoven—Songs in Book V and Music Hour Series; Ecossaises—21012; Rondino—Beethoven-Kreisler—1386; Minuet in G—1434; Country Dance—20451.
 - Music of Grieg—Song—The Primrose—Music Hour Series, Book V, page 120; Peer Gynt Suite—35793, 20245; March of the Dwarfs—22177; Norwegian Bridal Procession—20805; Lyric Suite—9073.
5. Dances (add to those in earlier grades):
 - Polonaise—Chopin—6234.
 - Tarantella—Chopin—8251; Saint-Saens—20401.
 - Bolero—Spanish Dance—Bizet—20521; Bolero—Ravel—7251, 7252.
6. Folk Music:
 - Folk songs of many peoples may be found in the various books of the Music Hour Series, and also in the following:
 - McConathy and Others. *Music of Many Lands and Peoples* (The Silver Book). Silver.
 - McConathy and Others. *Music Highways and Byways* (The Bronze Book). Silver.
 - Directions for many folk dances may be found in the *Intermediate Teachers' Manual* and the *Teachers' Guide for the Fifth Book*, both of the Music Hour Series. Silver.
 - Any course of study in Physical Education for the elementary grades will contain directions for many folk dances.
7. General References:
 - Teachers' Guide to the Fifth Book*, Music Hour Series: pp. 14, 17, 18, 27-34, 41-43, 65-81, 100-158.

SONGS LISTED BY COMPOSERS

Songs by the composers named in the various grades may be found in the following books previously noted:

Mendelssohn—	Third Book,	The Music Hour—p. 114, 115.
	Fourth Book,	The Music Hour—p. 100, 101, 102, 121.
	Fifth Book,	The Music Hour—p. 118.
	The Silver Book,	The Music Hour—p. 15, 76.
Mozart—	Third Book,	The Music Hour—p. 126.
	Fourth Book,	The Music Hour—p. 58, 84, 85, 102.
	Fifth Book,	The Music Hour—p. 13, 64, 108.
	The Bronze Book,	The Music Hour—p. 72.
	The Silver Book,	The Music Hour—p. 25, 49, 59.
Grieg—	Fourth Book,	The Music Hour—p. 26, 27.
	The Bronze Book,	The Music Hour—p. 190.
	The Silver Book,	The Music Hour—p. 192.
Beethoven—	Third Book,	The Music Hour—p. 1, 95, 94.
	Fourth Book,	The Music Hour—p. 64, 65, 81, 114.
	Fifth Book,	The Music Hour—p. 7, 57, 66.
	The Bronze Book,	The Music Hour—p. 2, 57, 74, 75.
	The Silver Book,	The Music Hour—p. 26, 224.

MUSIC FESTIVALS

The chief purpose of the music festival is to set aside a time for the culmination of the year's work in all phases of school and community music. It is best to begin early to plan for the musical activities which will be suitable and practicable for the development of musical interests in any given school or community. With a well-planned program in which various age groups are to participate, a feast of enjoyable music may be assured.

Suggested activities and procedures are as follows:

1. A discussion of school and community needs in music.
2. A list of teachers who can assist with the program.
3. A survey of individual pupil and group interests in music.
4. Group singing, concerts, and recitals at regular intervals.
5. Folk dances, rhythmic games, grand marches, and parades.
6. Holiday or special day celebrations through song festivals and other musical presentations.
7. Opera stories, music history, and other music literature.
8. Choral work through choirs for children.
9. The recognition of creative ability in music and the stimulation of the musical talent of children.
10. A study of musical instruments and their uses in various types of presentations—as, the orchestra, etc.
11. A study of the music festivals in other countries.
12. Definite plans for local and community festivals to be held during the spring term.

The music festival idea has developed very rapidly throughout the country, and through participation in the activities of the festival program, is becoming very popular as a means of measuring the achievement in music for the year. The outline course in music appreciation for the elementary grades provides training and experience in various phases and forms of music which prepare the pupil for satisfactory participation in the festival programs.

It is hoped that teachers in charge of the music program in the local schools in each administrative unit will plan together for both local and county festivals for the year. Nothing could be more important as a factor in making the State a really musical State than a music festival in every administrative unit during the spring term of each year.

Reference for use in music festivals:

Chase. *Old Songs and Singing Games*. Univ. of N. C. Press. \$.50.

MAKING FRIENDS WITH ORCHESTRAL INSTRUMENTS

I. *The members of the Symphony Orchestra:*

A. String Family:

1. Violin—First violins and second violins—12 to 16 of each (soprano and alto voices).
2. Viola—About $\frac{3}{4}$ of the number of first violins (second alto or tenor voices).
3. Violoncello—Little more than half the number of first violins (baritone voices).
4. Contra-bass—Almost as many as of violoncellos, (bass voices—an octave lower than violoncellos).
5. Harp—one or two. String plucked with fingers, hence not a true member of string family.

B. Wood-Wind Family:

1. Open mouthpiece—no reeds:
 - a. Flute—usually three players, one of whom plays the piccolo when needed (flute soprano voice; piccolo still higher).
2. Single reed in mouthpiece:
 - a. Clarinet—Usually 2 (soprano and alto voices).
 - b. Bass-clarinet—One, if any (bass voice).
3. Double reed in mouthpiece:
 - a. Oboe—1 or 2 (soprano voice).
 - b. English horn—Really an alto oboe—one (alto voice).
 - c. Bassoon—2 or 3 (baritone voice).
 - d. Contra bassoon—One, if any (bass voice—one octave lower than bassoon).

C. Brass-Wind Family:

1. French horn—4, playing as quartette of voices.
2. Trumpet or cornet—2 to 4 (soprano and alto voices).
3. Trombone—3 or 4 (tenor and baritone voices).
- Tuba—One (low bass voice—like contra bassoon).

D. Percussion Family (shown in two groupings):

1. With Definite Pitch:
 - a. Tympani—set of 3 or 4.
 - b. Celesta—one.
 - c. Bells—one set.
 - d. Chimes—one set.
2. With Indefinite Pitch:
 - a. Triangle—one.
 - b. Bass drum—one.
 - c. Snare drum—one.
 - d. Cymbals—one pair.
 - e. Gong—one.
 - f. Tambourine—one.
 - g. Wood block—one.
 - h. Frame of drum—one.
 - (1) Sound made by striking skin: (a) Tympani; (b) Bass drum; (c) Snare drum; (d) Tambourine.
 - (2) Sound made by striking metal: (a) Celesta; (b) Bells; (c) Chimes; (d) Triangle; (e) Cymbals; (f) Gong; (g) Tambourine.
 - (3) Sound made by striking wood: (a) Zylophone; (b) Wood block; (c) Frame of drum.

II. *Special Items About the Orchestra:*

1. All the instruments in the Percussion Family are played by a small number of men—usually two, rarely more than four. Many of the instruments listed are seldom used—for special effects only. The tympani are used in nearly every composition, and one player devotes most of his time to them.
2. The most important family in the orchestra is the string family. This family makes up about three-fourths of the entire orchestra. Hence, the string tone is the foundation of the orchestral tone, in contrast to the band, which has no strings. It uses the higher pitched wood-wind and brass-wind in the place of the violins in the orchestra.
3. The composer uses the tone colors of the various families and the various shades of each color in each family as the painter uses the various colors and shades on his palette—all made from the three primary colors. If a comparison were made, it might be said that the string family represents the various shades of yellow; the wood-winds, of blue; and the brass-winds, of red; while the percussion

family represents accents and high-lights—of black and white. This is merely a suggestive thought.

III. *Presenting the Orchestra to Children (Rarely earlier than Grade V):*

1. Show picture and hear music of entire orchestra.
2. Try to pick out the sound of some instrument they know.
3. Find out how the different instruments sound and look, using actual instruments if possible; if not, pictures and records.
4. Organize instruments into families.
5. Study seating plan of orchestra. Do families sit together?
6. In all music heard try to identify instruments.
7. Make posters, scrapbooks, and model orchestras.
8. Encourage hearing symphony orchestras over radio at home, and finding of pictures and articles about orchestras and bands.

BIBLIOGRAPHY

I. Books for Teachers:

- Glenn, Lowry, and DeForest. *Music Appreciation for Every Child—Manual for Primary Grades, and Manual for Intermediate Grades.* Silver.
- Music Appreciation for Children.* Victor.
- McConathy and Others. *Music Hour in the Kindergarten and First Grade; Elementary Teachers Manual; Intermediate Teachers Manual; and Teachers Guide for the Fifth Book—all of the Music Hour Series.* Silver.
- Damrosch, Gartlan, and Gehrkins. *Music Appreciation.* Universal School Music Series. Hinds, Hayden, and Eldredge Company, New York.
- Mohler. *Teaching Music from an Appreciative Basis.* Birchard.
- Thorn. *Music for Young Children.* Scribner.
- Kinsella. *Music and Romance.* Victor. \$2.25.
- Cooke. *Young Folks Picture History of Music.* Presser. \$1.00.
- Johnston. *Instruments of the Modern Orchestra and Band.* Fischer. \$50.
- Falkner. *What We Hear in Music.* Victor.
- Gehrkins. *The Fundamentals of Music.* Ditson. \$1.50.
- Pratt. *New Encyclopedia of Music and Musicians.* Macmillan. \$3.00.
- Radio Listeners Dictionary of Musical Terms.* Oxford.
- Elson. *Music Dictionary.* Ditson. \$1.75.
- Baker. *Pocket Manual of Musical Terms.* Scribner. \$50.

II. Books for the Children:

- Kinsella. *Music Appreciation Readers, Books I, II, III, IV, V, and VI.* University.
- Ripley and Schneider. *Art-Music Readers, Books I and II.* Mentzer.
- Scobey and Horne. *Stories of Great Musicians.* American.
- Cross. *Music Stories for Boys and Girls.* Ginn.
- Buchanan. *How Men Made Music.* Follett. \$1.13.
- La Prade. *Alice in Orchestrabilia.* Doubleday.
- The Christmas Carolers' Book.* Hall & McCreary.
- Bacon. *Operas Every Child Should Know.* Grosset.
- Upton. *In Music Land.* Browne and Howell Co., New York.

OTHER MATERIAL

- I. *Instrumental Charts:* Set of large charts containing pictures of instruments of the orchestra and booklet describing these instruments. R.C.A. Victor Company, Camden, N. J.
- II. *Instrumental Cut-Outs:* Cut-outs of instruments of symphony orchestra

being played—suitable for scrapbooks or miniature model orchestras. Presser's Musical Instrument Pictures. Theo. Presser Co., Philadelphia. 10¢ each. \$1.00 per dozen.

WHERE TO SECURE EQUIPMENT

The phonograph records listed in this bulletin are published by the R.C.A. Victor Company, Camden, N. J., and may be purchased from local dealers or from the Greensboro Music Company, Inc., Greensboro, N. C.

If the equipment and materials, including phonograph, records, and texts cannot be secured from local dealers, send orders by mail direct to the Greensboro Music Company, Inc. Prompt mail order service is assured.

LISTS OF RECORDS FOR STATED PRICES

(For other lists see R. C. A. Victor Co. catalogs)

List 1 7 Records Price \$5.25

- 20522 Instruments of the Orchestra (strings and woodwinds).
- 20523 Instruments of the Orchestra (brass and percussion).
- 20195 Spring Song—Mendelssohn.
- 20802 Shepherds Hey and Country Gardens—Grainger.
- 21938 Skaters Waltz—Waldteufel; Waltz in Ab—Brahms; Minuet—Mozart.
- 20203 Mazurka—Scharwenka.
- 20803 Of Brer Rabbit; Will o' the Wisp; From Uncle Remus; To a Humming Bird—MacDowell.

List 2. 14 Records Price \$10.50

- 20522 Instruments of the Orchestra (strings and woodwinds).
- 20523 Instruments of the Orchestra (brass and percussion).
- 20606 William Tell Overture—Rossini.
- 20344 At the Brook—Boisdeffre; Wind Amongst the Trees—Briccialdi.
- 21938 Skaters Waltz—Waldteufel; Waltz in Ab—Brahms; Minuet—Mozart.
- 19923 Music Box—Liadow; Torchlight Procession.
- 20169 Minuet—Paderewski; Amaryllis—Ghys.
- 20802 Shepherds Hey, Country Gardens—Grainger.
- 20203 Mazurka—Scharwenka.
- 20195 Spring Song—Mendelssohn.
- 20150 Various combinations of instruments.
- 20309 Volga Boatman's Song—Russian.
- 20245 Peer Gynt Suite, parts 3 and 4—Grieg.
- 21012 Butterflies—Lavalee; Butterfly—Grieg; Ecossaises—Beethoven.

List 3. 18 Records Price \$15.50

- 20522 Instruments of the Orchestra (strings and woodwinds).
- 20523 Instruments of the Orchestra (brass and percussion).
- 20606 William Tell Overture, parts 1 and 2—Rossini.
- 20607 William Tell Overture, parts 3 and 4—Rossini.
- 20344 At the Brook—Boisdeffre; Wind Amongst the Trees—Briccialdi.
- 19923 Music Box—Liadow; Torchlight Procession.
- 20169 Minuet—Paderewski; Amaryllis—Ghys.
- 20802 Shepherds Hey, Country Gardens—Grainger.
- 20430 Mazurka—Ganne.
- 20195 Spring Song—Mendelssohn.
- 20150 Various combinations of instruments.
- 20637 Various combinations of instruments.
- 20245 Peer Gynt Suite, parts 3 and 4—Grieg.
- 21012 Butterflies—Lavalee; Butterfly—Grieg; Ecossaises—Beethoven.
- 20342 From an Indian Lodge, Love Song—MacDowell.
- 20309 Volga Boatman's Song—Russian.
- 6584 Blue Danube Waltz, Tales of the Vienna Woods—Strauss.
- 1326 Spinning Song—Mendelssohn.

List 4. 27 Records Price \$25.50

- 20522 Instruments of the Orchestra (strings and woodwinds).
- 20523 Instruments of the Orchestra (brass and percussion).
- 20606 William Tell Overture, parts 1 and 2—Rossini.
- 20607 William Tell Overture, parts 3 and 4—Rossini.
- 20525 Whirlwind (flute) and Hungarian Fantasie (bassoon).
- 20150 Various combinations of instruments.
- 20637 Various combinations of instruments.
- 20344 At the Brook—Boisdeffre; Wind Amongst the Trees—Briccialdi.
- 19923 Music Box—Liadow; Torchlight Procession.

- 20245 Peer Gynt Suite, parts 3 and 4—Grieg.
- 21012 Butterflies—Lavalee; Butterfly—Grieg; Ecossaises—Beethoven.
- 20342 From an Indian Lodge, Love Song—MacDowell.
- 6675 Midsummer Night's Dream Overture—Mendelssohn.
- 6676 Midsummer Night's Dream Overture—completed, and Scherzo—Mendelssohn.
- 20195 Spring Song—Mendelssohn.
- 1326 Spinning Song—Mendelssohn.
- 20169 Minuet, Paderewski; Amaryllis—Ghys.
- 21938 Minuet—Mozart.
- 20430 Mazurka—Ganne.
- 1541 Mazurkas by Chopin.
- 24528 Old French Gavotte.
- 20802 Shepherds Hey, Country Gardens—Grainger.
- 20309 Volga Boatman's Song—Russian.
- 35977 Spanish Dances—Granados.
- 6584 Blue Danube Waltz, Tales of the Vienna Woods—Strauss.
- 20739 The Blacksmith—Mozart.
- 21750 Juba Dance—Dett; From the Canebrake—Gardner.

List 5.**Library of Records****Price \$50.00**

(For distribution from City or County School Office)

- 20522 Instruments of the Orchestra (strings and woodwinds).
- 20523 Instruments of the Orchestra (brass and percussion).
- 19923 Music Box—Liadow; Torchlight Procession.
- 20637 Brass ensemble; small groups of instruments.
- 20150 Various combinations of instruments.
- 19926 Various combinations of instruments.
- 20606 William Tell Overture, parts 1 and 2—Grieg.
- 20607 William Tell Overture, parts 3 and 4.
- 20344 At the Brook—Boisdeffre; Wind Amongst the Trees—Bricaldi.
- 20245 Peer Gynt Suite, parts 3 and 4—Grieg.
- 21750 Juba Dance—Dett; From the Canebrake—Gardner.
- 21012 Ecossaises—Beethoven; Butterflies—Lavalee; Butterfly—Grieg.
- 20342 From an Indian Lodge, Love Song—MacDowell.
- 20803 Of Brer Rabbit; From Uncle Remus; Will o' the Wisp; To a Humming Bird—MacDowell.
- 20162 Rhythms: Running, Swaying, etc.
- 22765 Rhythms: Stepping, Marching, etc.
- 20636 Minuet—Boccherini.
- 20169 Minuet—Paderewski; Amaryllis—Ghys.
- 21938 Skaters Waltz—Waldteufel; Waltz in Ab—Brahms; Minuet—Mozart.
- 24528 Old French Gavotte.
- 20430 Mazurka—Ganne.
- 21972 Indian Songs—Lieurance.
- 20802 Shepherds Hey, Country Gardens—Grainger.
- 20195 Spring Song—Mendelssohn.
- 22131 Turkey in the Straw, Irish Washerwoman—Guion.
- 22765 Rhythms: Stepping, Marching, etc.
- 1645 Flight of the Bumble-Bee—Rimsky—Korsakow; Sea Murmurs.
- 1143 The Swan—Saint-Saens.
- 1326 Spinning Song—Mendelssohn.
- 1541 Mazurka in Ab Major, Mazurka in D Major—Chopin.
- 1245 Waltzes in C Minor and Ab Major—Chopin.
- 4083 Six English and Scotch Folk Songs.
- 4186 Londonderry Air—Irish Tune.
- 6675 Midsummer Night's Dream—Overture—Mendelssohn.
- 6676 Midsummer Night's Dream—Overture and Scherzo—Mendelssohn.
- 6677 Midsummer Night's Dream—Nocturne—Mendelssohn.
- 6678 Midsummer Night's Dream—Wedding March—Mendelssohn.
- 6616 Nutcracker Suite—Tchaikowsky.
- 6617 Nutcracker Suite—Tchaikowsky.
- 1650 Caprices—Paganini.
- 1152 To a Wild Rose, To a Water-Lily—MacDowell.
- 6639 March Militaire—Schubert; Funeral March of a Marionette—Gounod.
- 6823 Rakoczy March—Berlioz.
- 6584 Blue Danube Waltz, Tales of the Vienna Woods—Strauss.

Applied Music for Credit

The widespread interest in applied music (the study of piano, violin, organ, or an orchestral instrument), the general recognition of this study as a legitimate phase of secondary education, and the realization of the importance of the development of these techniques during the adolescent period, has resulted in the development of plans for accrediting the work done in this field as an integral part of the pupil's curriculum. Since few high schools can provide this instruction, the following plans are set up to enable the school to give credit for properly supervised study in applied music carried on by pupils at their own expense and with private teachers.

REGULATIONS GOVERNING CREDIT

1. The student registering for credit must be a regularly registered pupil of the high school.
2. Application for credit must be made on a blank form provided by the high school principal. (See Form A.)
3. The pupil must have two lessons of thirty minutes each per week or one lesson of sixty minutes per week, through the school year.
4. The pupil must practice a minimum of six hours per week, keeping a record of it on a weekly report blank form which is certified by the parent to the teacher at each lesson. (See Form B.)
5. At the close of each grading period the teacher will give the high school principal the pupil's grade, on a report blank provided by the high school principal. (See Form C.)
6. The pupil must pass an examination before credit for the work may be allowed.
 - a. The application for this examination must be made not less than two weeks before the close of the school year on the form provided by the high school principal. (See Form D.)
 - b. The examination must be given by a musician of good standing in the State who has been approved as an examiner by the State Department of Public Instruction. The examiner is to be engaged by the high school principal.
 - c. A reasonable fee (not over \$3.00) will be paid by the pupil for this examination. This fee is to be used only for the expenses of the examiner.
 - d. The examiner must report the result of the examination to the principal of the high school on a blank form provided for this purpose, and the principal will make the proper record on the pupil's report card. (See Form E.)
 - e. The teacher of applied music is not permitted to be present at the pupil's examination.
 - f. The examiner may grant the pupil—
 - (1) One-half unit of credit for the year's satisfactory study, or
 - (2) One-fourth unit if the examiner considers that the pupil has accomplished much less than should be done in a year of study, or
 - (3) May deny the pupil any credit if he considers the work done as unsatisfactory for high school credit.
7. Suggestive lists of materials in piano and violin for this study of applied music for credit will be found on the following pages of this bulletin.

FORMS FOR REPORT BLANKS

The following report forms will be needed for the administration of these plans for granting high school credit for the study of applied music under private teachers. As stated in the Regulations Governing Credit, these blanks are to be provided by the high school principal. It is not necessary that they be printed. Mimeographed blanks will be entirely satisfactory.

In addition to these report blanks it is very desirable that a copy of the Regulations Governing Credit be given each pupil of applied music who is applying for credit. The pupil should take this copy of the Regulations home so that the parents may know what is expected of the pupil, of the parent, and of the teacher of applied music.

FORM A. APPLICATION FOR APPLIED MUSIC CREDIT.

.....School. Date.....
 We, the undersigned, hereby request that.....(pupil)
 be permitted to study for credit the applied music subject herein named, subject to
 the regulations stated on the accompanying sheet. These regulations we have read
 and hereby accept.
 Applied music subject.....
 School year beginning.....
 Number of years previous study without high school credit.....
 Number of years previous study with high school credit.....
 Signed:.....Pupil
ParentTeacher

FORM B.—APPLIED MUSIC STUDY

PRACTICE REPORT CARD

NAME.....SCHOOL.....
 SUBJECT.....
 Record minutes of practice each day, have a parent sign it, and take to your teacher each week when you have
 your lesson.

Month	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Parent's Signature
1st. week							
2nd. week							
3rd. week							
4th. week							
5th. week							

-----Semester -----Year in High School
 -----Teacher

FORM C.—APPLIED MUSIC STUDY

TEACHER'S REPORT

NAME.....SCHOOL.....
 (Pupil) SUBJECT.....

	Number Lessons	Number of Hours Practice	Grade	Remarks
1st. month				
2nd. month				
3rd. month				
4th. month				
5th. month				
6th. month				
7th. month				
8th. month				
9th. month				

Teacher..... Date.....

FORM D.—APPLIED MUSIC STUDY

APPLICATION FOR EXAMINATION

We, the undersigned, hereby request that.....(pupil).....
 be permitted to take the annual examination in.....(subject).....
 for credit, subject to the regulations agreed to at the beginning of the current school
 year.
 Signed:.....Pupil.....Parent.....
Teacher.....Dated.....

STATEMENT OF WORK ACCOMPLISHED

This is to certify that.....(pupil).....has studied and learned
 acceptably, during the current school year, the following:
 Scales, etc.....
 Studies.....

Pieces.....

Signed:.....Teacher.....Dated.....
Note to teacher and pupil: This Application for Examination and Statement
 of Work Accomplished must be presented to the examiner at the time of the annual
 examination. The examiner will give it, with his report on the examination, to the
 High School Principal for permanent filing.

FORM E.—APPLIED MUSIC STUDY

EXAMINER'S REPORT

-----SCHOOL-----			
Student's Name	Subject	Grade	Amount Credit
For Year Ending.....	Signed:.....Examiner.....		

HIGH SCHOOL COURSE OF STUDY IN PIANO

In the first year the student will be required to read at sight a simple melody with accompaniment. The selections for sight reading will increase in difficulty each year but will always be on a level approximately three years below the prepared selections.

FIRST YEAR

1. Thorough knowledge of Major Scales

2 Octaves—2 sounds to a beat

3 Octaves—3 sounds to a beat

4 Octaves—4 sounds to a beat

M. M. 40 to 60

Tonic triad arpeggios—Major Keys—4 octaves—2 sounds to a beat.

M. M. 60. Each hand separately.

Cadence Chords, I IV I V I.

- One selection from First Year Bach (Foote) or any piece by Bach of equivalent grade, and one selection from any of the following volumes: Czerny, *Studies*, Volume I, Part I (Germer); Gurlitt, *Twenty-four Melodious Studies in all Major and Minor Keys*; Burgmüller, *Studies*, *Opus 100*, Book I; Heller, *Studies*, *Opus 47*; Bertini, *Opus 100*.
- One program selection from the supplementary list. This selection is to be memorized.

SECOND YEAR

1. All Scales, Arpeggios and Cadence Chords in the First Year work.
Harmonic Minor Scales—2, 3, and 4 octaves—2, 3, and 4 sounds respectively to a beat. M. M. 40 to 60.
Tonic triad arpeggios—Minor Keys—4 octaves—2 sounds to a beat. M. M. 60. Each hand separately.
Minor Cadence Chords. I IV I V I.
2. One selection from First Year Bach (Foote) or Bach, *Twelve Little Preludes*, or any piece by Bach of equivalent grade, and one selection from any of the following volumes: Duvernoy, *Studies, Opus 120*; Loeschhorn, *Studies, Opus 66*, Book I; Czerny, *Studies*, Vol. I, Part II (Germer); Burgmüller, *Studies, Opus 100*, Book II; Burgmüller, *Studies, Opus 109*, Book I; Bertini, *Opus 29*; Heller, *Opus 46*.
3. One program selection from the supplementary list. This selection is to be memorized.

THIRD YEAR

1. Major and Minor Scales—all keys—2, 3, and 4 octaves—2, 3, and 4 sounds respectively to a beat. M. M. 72 to 84.
Tonic triad arpeggios—all keys—4 octaves—4 sounds to a beat, M. M. 60, hands together; and diminished seventh arpeggios—3 octaves—3 sounds to a beat. M. M. 60. Hands together.
Major and Minor Cadence Chords, I IV I V I.
2. One selection from Bach, *Twelve Little Preludes*, or a *Two-Part Invention*, or any piece by Bach of equivalent grade, and one selection from any of the following volumes: Czerny, *Studies*, Volume II, Part I (Germer); Heller, *Studies, Opus 45*; Loeschhorn, *Studies, Opus 66*, Book II.
3. The first movement from a sonatina or simple sonata, such as one by Clementi or Beethoven, *Opus 49*, Mozart or Haydn.
4. One program selection from the supplementary list. This selection is to be memorized.

FOURTH YEAR

1. All scales, including melodic minor—2, 3, and 4 octaves—2, 3, and 4 sounds respectively to a beat. M. M. 84 to 100.
Tonic triad arpeggios—All Keys—4 octaves—4 sounds to a beat. M. M. 72.
Diminished and dominant seventh arpeggios—all keys—3 octaves—3 sounds to a beat. M. M. 72.
Major and Minor Cadence Chords. I IV I V I.
2. One selection from Bach, *Two-Part Inventions*, and one selection from any of the following volumes: Czerny, *Studies*, Vol. II, Part II (Germer); Czerny, *Opus 299*, any book.
3. First movement of Beethoven, *Sonata, Opus 2, No. 1*, or another Beethoven sonata of similar grade, and a Chopin selection: Waltz or mazurka or preludes (not Nos. 7 or 20).
4. One selection from the supplementary list. This selection is to be memorized.

SUPPLEMENTARY LIST

FIRST YEAR

- | | |
|---|---|
| Bach-Handel. Master Series for the Young. Ditson. | Seiss. Sonatinas. |
| Bach-Hughes. Master Series for the Young. Schirmer. | Schubert. Moment Musical, F minor. |
| Bloch. Enfantsines. | Wright. Preludes, Op. 25. |
| Clementi. Sonatina, Op. 36, No. 1, C major. | Schytte. Sonatina, Op. 76, G major. |
| Friml. Minuetto, Op. 72, No. 3. | Tschaikowsky-Hughes. Master Series for the Young, Op. 39, Nos. 8, 21, 14. |
| Gade. Children's Christmas Eve. | Schumann. Album for the Young, Op. 68, Nos. (9 and 17), 13, (16 and 15), (21 and 24). |
| Grieg. Lyrical Pieces, Op. 12. | Scharwenka. Barcarolle in E minor. |
| Haydn. Allegretto. | Mendelssohn. Children's Pieces. |
| Heller. Curious Story. | |
| Kullak. Scenes from Childhood. | |
| Loeilly-MacDowell. Jig. | |

SECOND YEAR

Beethoven. To Elise.
 Chaminade. Pierrette.
 Couperin. The Nun.
 Durand. Chaccone.
 Godard. Second Mazurka.
 Grieg. Dance Caprice.
 Ilyinski. Lullaby.
 Jensen. Canzonetta, Op. 42.
 Clementi. Sonatina, Op. 36, No. 3.
 Mendelssohn. Song without Words.
 Raff. Fabliau.
 Schubert. Minuetto in B minor.
 Schubert. Scherzo, B flat major.
 Schütt. Valse Lente.
 Kuhlau. Sonatina, Op. 55, No. 1.

Edgar Thorn. Six Fancies.
 Heller. Warrior's Song.
 Grieg. Elegie, Op. 38, No. 6.
 Grieg. Waltz, Op. 38, No. 7.
 Cesar Franck. Danse Lente.
 Scharwenka. Scherzino.
 Tschaiowsky-Hughes. Master Series, Op. 39, Nos. 10, 22; Op. 40, Nos. 2, 6.
 Schumann. Album for the Young, Op. 68, Nos. 12, 23, (26 and 36), or (28 and 36), 29.
 Carl Kölling. Allegro Molto in A minor.

THIRD YEAR

Chaminade. Air de Ballet.
 Godard. Au Matin.
 Grieg. Papillon.
 Jensen. Will o' the Wisp.
 Moszkowski. Melodie Italienne, Op. 38, No. 4.
 Palmgren. May Night.
 Haydn. Sonata, C major.
 Clementi. Sonatina, Op. 36, No. 4.
 Schumann. Romanza in F sharp.
 Schumann. Nocturne in F.
 Henselt. Liebeslied.
 Bach. Solfeggietto.

Grieg. Berceuse.
 Poldini. Dancing Doll.
 Mendelssohn. Song Without Words.
 Schütt. Canzonetta.
 Schütt. Reverie.
 Edgar Thorn. Forgotten Fairy-tales.
 Schubert. Impromptu, A flat, Op. 142, No. 2.
 Debussy. Jimbo's Lullaby.
 Debussy. Doctor Gradus ad Parnassum.
 Schumann. Op. 15, Nos. (1 and 2).

FOURTH YEAR

Sinding. Rustle of Spring.
 Debussy. Arabesque in G major.
 Grieg. Puck.
 Granados. Playera.
 Dennee. Forest Sounds.
 Kroeger. Egeria.
 MacDowell. Sea Pieces.
 MacDowell. Scotch Poem.
 Reinhold. Impromptu.

Sibelius. Romance.
 Scott. Lotus Land.
 C. P. E. Bath. Allegro in F minor.
 Grieg. To Spring.
 Lavallee. Butterfly.
 Debussy. Reverie.
 Albeniz. Tango.
 Theo. Kirchner. Nocturnes.
 Rheinberger. The Chase.

VIOLIN COURSE OF STUDY

Preface: It is to be taken for granted that these standards will be flexible. The quality of a student's work is more significant than the material he has studied. It is desirable that the judgment of a student's ability be based on this premise.

FIRST YEAR

- I. Scales: Major, in two octaves. They should be played in slow tempo, legato.
- II. Etudes: Kayser, *Etudes*, or material of a similar grade of difficulty.
- III. Solos, such as: Seitz, *Concerto* No. I; Accolay, *Concerto in A Minor*; Bull, *Saeterjentens Sondag*; Grieg-Brown, *Solveig's Song*.

SECOND YEAR

- I. Scales: Minor (melodic and harmonic forms), in two octaves. Slow tempo, legato.

- II. One study from Dont—Op. 37, or Kreutzer—*Forty-two Etudes*, or material of a similar grade of difficulty.
- III. Solos, such as: Mlynarski, *Mazurka*; Bizet, *Adagietto*; Elgar, *Chanson de Nuit*; Pugnani-Kreisler, *Minuet*; Dancla, *Air Varies*.

THIRD YEAR

- I. Scales: Major and minor in two octaves. Slow tempo, legato.
- II. Etudes: One study from Kreutzer, and Fiorillo, *Thirty-six Etudes*.
- III. Solos, such as: Wieniawski, *Souvenir de Posen*; DeBeriot, *Air Varies*; Randegger, *Pierrot's Serenade*; Boulanger, *Nocturne*.

FOURTH YEAR

- I. Scales: Major; three octaves; slow tempo, legato. Arpeggios: tonic chord, three octaves.
- II. Etudes: One study from Kreutzer, and Fiorillo, or Dancla, *Twenty Brilliant and Characteristic Studies*, or material of a similar grade of difficulty.
- III. Solos, such as: Granados-Kreisler, *Spanish Dance*; Ysaye, *La Reve d'Enfant*; Godard, *Concerto Romantique*; DeBeriot, *Concertos Nos. I, II, IX*; Viotti, *Concertos Nos. XXII, XXIII*; Vivaldi, *Sonata in A Minor*; Mozart, *Sonata No. IV in E Minor*.

Promotion Plans for the Observance of National Music Week

Introductory Note

National Music Week is celebrated during the first week in May of each year. This is the definite time set aside for the culmination of the year's work in all phases of community music. However, it is best to begin early to plan for the musical activities which would be suitable and practical for the development of musical interests in any given community. With a good program planned well in advance and provision made for participation by various age groups, a feast of enjoyable music may be assured. Suggested activities, procedures and results to be expected for National Music Week are outlined below.

Suggested Activities and Procedures

1. A forum for the discussion of community needs in music.
2. A roster of trained leaders and lay participants in musical events in the community.
3. A publicity program through local papers and at public gatherings.
4. An institute of instruction in music where all who attend may enjoy taking part in singing under capable leaders.
5. Community sings, band and orchestra concerts at regular intervals.
6. Music recitals, choruses, and concerts by trained musicians.
7. Folk dances, rhythmic games, children's choruses and operettas.
8. Grand marches and parades with the singing of patriotic songs.
9. Special programs for the singing of hymns, folk songs of many countries, traditional American songs, and popular songs of the present time.
10. Holiday or special day celebrations through song festivals, honoring local, State, or national leaders.
11. Opera stories, music, history, and other music literature presented in attractive and effective programs.
12. Choral work through choirs for children and adult choirs, bringing together the good singing voices of the community.

13. Verse choirs for young people in which selected rhythmic poetry is presented in dramatic concert.
14. Family music hours in which parents and children participate in programs of song, instrumental music, stories, and the interpretation of music literature.
15. The recognition of creative ability in music and the stimulation of the musical talent of children and adults in the community.
16. The promotion of music in the public schools and for adult classes by a cooperative program between school and community—including a Parent's Music Day in the schools.
17. A shelf of books on music in the public library, including music literature, song collections, and files of instrumental music and phonograph records.
18. Participation in State and national programs through radio programs, broadcasts, music festivals, contests, and "All-State High School Music" courses offered during summer terms at the State University.
19. Visits to the State colleges and university for conferences with directors of music education in these institutions.
20. Plans for securing improved instruments of music for churches, schools, and community buildings: pipe organs, pianos, instruments of the orchestra and band, phonographs and records, radio receiving sets, etc.
21. Coordinating all musical interests of the community through a permanent organization financed for active work.

Results to be Expected

1. National Music Week—a definite and lasting part of the musical life of the community.
2. A continued support of musical activities in the community, particularly the music education of children.
3. An informed citizenship concerning the values of the observance of National Music Week, with churches, schools, music clubs, and all civic organizations supporting the enterprise and participating in the various types of activities planned to promote music.
4. The first week of May—a period of devotion to music in which a large portion of the community participates, either by listening to music or by producing music.
5. An appreciation of the beauty of music and a realization that music is an integral part of the life of each individual.
6. Ability to listen to good music, to understand, to interpret, and to select good music.
7. An intelligent enjoyment of music as a means of expressing feeling, and a regard for music as an enriching experience.
8. Cooperation and coordination of all community interests assured through the satisfactory experience of working together to develop a love for good music and a participation in musical programs by representative groups.
9. The whole community awakened to the importance of music as a factor in its life.
10. More time and thought given to music.

REFERENCES:

- The National Music Week Committee and the National Bureau for the Advancement of Music, 45 West 45th Street, New York.
The Playground and Recreation Association, New York.
Music Supervisors National Conference, 64 E. Jackson Boulevard, Suite 84D, Chicago.
A Study in Curriculum Problems, Publication 189, p. 497 and the bibliography in the Course of Study in Music Appreciation, p. 164, this Handbook.

ART EDUCATION

The material herein on Art Education primarily directs attention to the broad interpretation of art in the public schools as set forth in *A Study in Curriculum Problems of the North Carolina Public Schools, Publication 189*. There the teacher finds art directly related to and drawn from nine major art expressions: Sculpture, Drawing and Painting, Graphic Arts, Architecture, Landscape Gardening, Interior Decorating, Theatre, Costume, and Art in Industry. The integrative possibilities of these suggested topics, in illustrating ideas or interpreting meanings in activity units of a curriculum, establishes an interpretative meaning of Art Education as another means of creative expression for the child. In addition to another medium for expression, it proposes to improve the type of art expressed in everyday life, and to engender some feeling of responsibility for the principles of art expressed in the immediate surroundings of the individual.

Designated periods for art instruction will be desirable for instruction needed in basic technique and skills. However, since Art Education permeates all areas of school life and draws its subjects from the individual and his interaction with the problems and activities in process, thereby aiding in vivifying a thought, clarifying a meaning, or expressing an idea through representation, it cannot be wholly contained in one compartment of the curriculum.

Art as a way of living or "art as industry unusually conscious of its task" recognizes that every teacher is in a degree an art teacher and that each pupil in his creative responses in his various activities expresses art principles in some degree. This view of art as creatively refined expression would do more than develop the talents of the gifted few. Every pupil in the school should be privileged to work with choices of art media as means of interpretation; those pupils who have a ruling passion for technique should be still further directed.

Growths in art are, in the main, determined by the refined uses of the principles of harmony, proportion, balance, rhythm, and emphasis, with recognition of line and form and the color qualities of hue, value, and intensity. The individual's application of these principles to his every activity, in order to promote more pleasing design and more graphic representation, may worthily be an addendum to the growth chart in any school.

Subscribing to this broad functioning of Art Education as a way of living and doing in the activities of the day proposes two phases of art: first, the development of technique and skills for more refined creative expression; and second, the expression of art principles in each activity of life. Illustratively, language in oral or written communication more effectively expressed; a social studies problem more variedly and creatively illustrated; a science

experiment more minutely done; a writing, spelling, or arithmetic paper that shows more consideration for line, proportion, and balance; a picture more appreciatively enjoyed; a school room closet more orderly arranged; an exhibit more pleasingly balanced; a classroom an artistic arrangement; pupils that grow in poise and graciousness—these are truly forms of art expression.

Teachers are continually confronted with these questions: What are the minimum essential materials and equipment for successful work in art? What are the best references on Art Education? *A Study in Curriculum Problems*, p. 426, answers those questions, in a concise way, as to State texts, minimum equipment in art media, and helpful books for students and teacher reference. Some additional desirable references are:

- ** Brooks. *A Guide to Painters and Paintings*. Baker and Taylor.
- * Klar, Winslow, Kirby. *Art Education in Principle and Practice*. Milton Bradley, 384 Foust Ave., N. E., Atlanta, Ga.
- ** Mathias. *The Teaching of Art*. Scribner.
- ** Dow, Arthur W. *Composition*. Doubleday.
- * McSpadden, Frederick T. *Famous Sculptors of America*. Dodd.
- ** Latimer. *Illustrators*. Faxon and Company, Boston.
- ** Chandler, Anna C. *Treasure Traits in Art*. Hale, Cushman, and Flint, 489 Fifth Ave., New York.
- * Van Loon, Hendrick W. *The Arts*. Simon and Schuster, Inc., 386 Fourth Ave., New York.
- ** Owens, Mary E. *Studies of Famous Paintings*. F. A. Owen Publishing Company, Dansville, N. Y. (Contains brief information on 54 of the 70 prints in the suggested picture list.)
- * *Art Index*. H. W. Wilson Company. (For those especially interested in lists of current books and magazine articles concerning art.)

Note: One star (*)=For teachers use only; Two stars (**)=For teacher or pupil use.

The section on picture appreciation in *A Study in Curriculum Problems, Publication 189*, lists many reproductions by noted artists of the nine major art expressions. The selections by grades show cooperative aims with unit themes.

To aid the schools in the selection of a minimum number of prints that will meet the accreditation requirement of an elementary school, seventy titles of colored art print reproductions have been selected from the complete list that is given in *Publication 189*. Each of ten pictures, where possible, contains one or more from each of the nine major expressions emphasized in the North Carolina Course of Study. Since any picture listed for a designated grade in the Course of Study will be acceptable in meeting requirements for that grade, schools may use this suggested list or make their own from the complete listing. It is suggested that any new list should contain pictures representing the nine phases of art given herein.

The prints listed here are reproduced in color and are available in the 7" x 9" or 8" x 10" size. Where a special print, not mounted on a larger mat, is preferred due to select color reproduction, it is desirable to select a mount that tones in color with the neutral value of the picture.

After a minimum list of prints is obtained schools may desire to purchase pictures representing other artists that have won recognition, such as: Grant Wood, Thomas Benton, the Cizek School, or even the Modernistic as represented in Rockwell Kent.

Suggested List of Seventy Art Reproductions

Needed to meet Item 10 under General Equipment, Section IV, p. 21.

*—Available from Art Extension Press, Westport, Conn.

x—Available from F. A. Owen Publishing Company, Dansville, N. Y.

FIRST GRADE

x1.	Chardin.....	Saying Grace.....	French	1699-1779
x2.	Correggio.....	Holy Night.....	Italian	1494-1552
*x3.	Israels.....	Children of the Sea.....	Dutch	1824-1911
x4.	Millet.....	Bringing Home the New Born Calf.....	French	1814-1875
*x5.	Murillo.....	Children of the Shell.....	Spanish	1617-1682
*x6.	Potthast.....	A Holiday.....	American	1857-1927
*x7.	Raeburn.....	A Boy With a Rabbit.....	Scotch	1756-1828
*x8.	McEwen.....	With Grandma.....	American	1860-
x9.	Reynolds.....	Miss Bowles.....	English	1723-1792
*x10.	Van Dyck.....	Baby Stuart.....	Flemish	1599-1641

SECOND GRADE

*x1.	Kemp-Welch.....	Behind the Plow.....	English	Contemporary
x2.	Dupre.....	The Escaped Cow.....	French	1851-1910
x3.	Hoecker.....	Girl with Cat.....	German	1854-
x4.	Inness.....	Mill Pond.....	American	1825-1894
x5.	Landseer.....	A Distinguished Member of the Humane Society.....	English	1802-1873
*x6.	Murillo.....	The Pastry Eaters.....	Spanish	1616-1682
*x7.	Reynolds.....	The Strawberry Girl.....	English	1723-1792
*x8.	Reynolds.....	Age of Innocence.....	English	1723-1792
*x9.	Velasquez.....	Don Carlos Baltasar.....	Spanish	1599-1660
*x10.	Vermeer.....	A Girl Reading a Letter.....	Dutch	1632-1675

THIRD GRADE

x1.	Charlet.....	Play Day in Holland.....	German	1862-1928
*x2.	Constable.....	The Valley Farm.....	English	1776-
*x3.	De Hooch.....	Storage Room.....	Dutch	1629-1677
*x4.	Gainsborough.....	The Blue Boy.....	English	1727-1788
*x5.	Daumier.....	The Washerwoman.....	French	1808-1879
x6.	Hoppner.....	The Sackville Children.....	English	1758-1810
*x7.	Israels.....	Interior of a Cottage.....	Dutch	1824-1911
*x8.	Thoma.....	Dancing in a Ring.....	German	1839-1924
*x9.	Perrault.....	Childhood.....	American	1871-1929
*x10.	Sargent.....	Carnation, Lily, Lily, Rose.....	American	1856-1925

FOURTH GRADE

*x1.	Houdon.....	Washington.....	French	1741-1828
x2.	Couse.....	Taos Indian Roasting Corn.....	American	1866-
*x3.	Hitchcock.....	Flower Girl in Holland.....	American	1850-1913
*x4.	Ferris.....	The Rail Splitter.....		
*x5.	Landseer.....	Shoeing the Bay Mare.....	English	1802-1873
*6.	L'Hermitte.....	The Wheelwright.....	French	
*7.	Reid.....	Coming of the White Man.....	American	1862-1929
*8.	Ruisdael.....	The Windmill.....	Dutch	1628-1682
*x9.	Ufer.....	The Solemn Pledge.....	American	1876-1936
*10.	Young-Hunter.....	The Santa Fe Trail.....	English	Contemporary

FIFTH GRADE

*x1.	Bonheur.....	The Horse Fair.....	French	1822-1899
*x2.	Duveneck.....	Whistling Boy.....	American	1848-1919
*3.	French.....	The Minute Man (A black and white print.)		
*4.	Hassam.....	Lincoln Memorial.....		
*x5.	Hobbema.....	Avenue at Middleharnis.....	Dutch	1638-1709
*6.	Millet.....	Going to Work.....	French	1814-1875
*x7.	Millet.....	The Gleaners.....	French	1814-1875
*x8.	Raphael.....	The Sistine Madonna.....	Italian	1483-1520
*x9.	Rembrandt.....	Syndics of the Cloth Guild.....	Dutch	1606-1669
*x10.	Whistler.....	The Artist's Mother.....	American	1834-1903

SIXTH GRADE

*x1.	Breton.....	Song of the Lark.....	French	1827-1890
*2.	Cezanne.....	The Village Road.....	French	1839-1906
*x3.	Corot.....	Dance of the Nymphs.....	French	1796-1875
*x4.	Hals.....	The Laughing Cavalier.....	Dutch	1580-1666
*x5.	Homer.....	Fog Warning.....	American	1836-1910
*6.	Innes.....	After a Summer Shower.....	American	1825-1894
*x7.	Murillo.....	The Money Changers.....	Spanish	1617-
*8.	Renoir.....	Paris Boulevard.....	French	1841-1919
*9.	St. Gaudens.....	The Puritan.....	American	1848-1907
*x10.	Vermeer.....	The Lace Maker.....	Dutch	1632-1675

SEVENTH GRADE

*x1.	Bonheur.....	Oxen Plowing.....	French	1822-1899
*x2.	Mauve.....	Autumn.....	Dutch	1838-1888
*3.	Da Vinci.....	Madonna of the Rocks.....	Italian	1452-1519
*x4.	Hals.....	The Jester.....	Dutch	1580-1666
*x5.	Millais.....	Boyhood of Sir Walter Raleigh.....	English	1829-1896
*x6.	Millet.....	The Angelus.....	French	1814-1875
*7.	Monet.....	Church at Vernon.....	French	1840-1926
*8.	St. Gaudens.....	Lincoln.....	American	1848-1907
*x9.	Watts.....	Sir Galahad.....	English	1817-1904
*10.	Whistler.....	Battersea Bridge.....	American	1834-1903

Additional List of Art Prints

The following is a listing of the art prints found in *A Study in Curriculum Problems of the North Carolina Public Schools, Publication 189*, which the schools may use in selecting a minimum list or in adding to the sample minimum list given in the preceding pages.

*=Available from the Art Extension Press, Westport, Conn.

x=Available from the F. A. Owens Publishing Company, Dansville, New York.

Other pictures in this list may be obtained from the following companies. It is advisable to obtain a catalogue and check upon your list of pictures before ordering, as changes in catalogue listings frequently occur.

B—Brown-Robertson Company, Art Education Inc., 33 West 34th Street, New York, N. Y.

C—Colonial Art Company, Oklahoma City, Okla. (This company will service the schools with a number of prints when they are desired for exhibit purposes. Also, those schools desiring to obtain prints, or pictures properly framed for wall pictures, would find prints of most desirable color reproduction catalogued by them.)

J—Japan Art and Novelty Company, 37 South and Eighth Street, Minneapolis, Minnesota.

FIRST GRADE

- * della Robbia. Bambino.
- * Murillo. Children of the Shell.
- * Van Gogh. Sunflowers.
- * Smith. The Five Senses.
- * Israels. Children of the Sea.
- * Raeburn. Boy with Rabbits.
- * Smith. Goldflocks and the Three Bears.
- * Smith. A Modern Cinderella.
- * Millet. The Knitting Lesson.
- * Reynolds. Miss Bowles.
- * Ortlip. The Golden Age.
- * Holmes. Can't You Talk?
- * Van Dyck. Baby Stuart.
- * Carriere. Home Study.
- * Cassatt. After the Bath.
- * Chardin. Saying Grace.
- * Van Dyck. Children of Chas. I.
- * Lawrence. Calmady Children.
- * Sully. The Torn Hat.
- * Shulz. Mother and Child.
- * Raphael. Madonna of the Chair.
- * Van Gogh. Going to Work.
- * Mancini. Neapolitan Boy.
- * Steele. The Haymakers.
- * Bonheur. Oxen Plowing.
- * Smith. Little Red Riding Hood.
- * Potthast. A Holiday.
- * Velasquez. Infanta Margarita Theresa.
- * MacEwen. With Grandma.
- * El Greco. Holy Family.
- * Renouf. The Helping Hand.
- * Meyer. Kindergarten.
- * Smith. A Modern Cinderella.
- x Reynolds. Penelope Boothby.
- x Correggio. Holy Family.
- x Chardin. The Cook.
- x Blum. Itinerant Candy Vender.
- C Thoma. At Lake of Garda.
- C Millet. First Steps.
- * Raphael. Holy Night.
- B Albright. Little Sisters.
- B Frans Hals. Nurse and Child.

SECOND GRADE

- * Reynolds. Miss Bowles.
- * Murillo. The Divine Shepherd.
- * Raphael. Sistine Madonna.
- * Kemp-Welch. Behind the Plow.
- * Kampf. The Belgian Farm.
- * Corot. Spring.
- * Inness. Millpond.
- * Van Gogh. Landscape with Bridge.
- * Manet. The Breakfast.
- * Oppler. Interior.
- * Carpaccio. Angel with Lute.
- * Smith. Beauty and the Beast.
- * Murillo. Repose During Night.
- * Claus. Herd in the Sunlight.
- * Bonheur. Plowing.
- * Steel. The Haymakers.
- * Troyon. Going to Market.
- * Courbet. The Stonebreakers.
- * Cezanne. Park Landscape.
- * Vermeer. A Girl Reading a Letter.
- * Zorn. On the Stairs.
- * Correggio. The Holy Night.
- * Degas. The Dancers.
- * della Robbia. Bambino.
- * Velasquez. Las Meninas.
- * Goya. Blindman's Buff.
- * Millet. The Gleaners.
- * Claus. Kindergarten.
- * Shannon. Fairy Tales.
- * Landseer. A Distinguished Member of Humane Society.
- * Reynolds. The Strawberry Girl.
- * Velasquez. Don Carlos.
- * Blommers. In the Country.
- * Murillo. The Pastry Eaters.
- * Murillo. The Melon Eaters.
- x Hoecker. Girl with Cat.
- x Dupre. The Escaped Cow.
- x Charlet. Playdays in Holland.
- x Millet. Bringing Home the Newborn Calf.
- B Van Marcke. The Herd.
- J Hiroshige. Red Temple.
- B Degas. The Jockey.
- B Murillo. Virgin and Infant Jesus.
- C LeRolle. By the River.
- J Shotei. Temple in Woods.
- J Shotei. Pagoda.
- B Rousseau. Edge of the Woods.
- J Kokoscho. Flowers in Window.
- x Hencke. Girl in the Swing.
- x Witkawski. Camp Fire Boy.
- x Amick. Indian Rug Weaver.

THIRD GRADE

- * Moretti. The Panther.
- * Verocchio. Colleoni.
- * Israels. Children of the Sea.
- * Kampf. Belgium Farm.
- * Adams. Hunting in Autumn.
- * David. Madame Recamier.
- * Reynolds. The Age of Innocence.
- * Gainsborough. The Blue Boy.
- * Van Dyck. Children of Charles I.
- * della Robbia. Boys Singing from Scroll.
- * Crunelle. The Bird Woman.
- * Thoma. Dancing in a Ring.
- * Potthast. A Holiday.
- * Sargent. Carnation, Lily, Lily, Rose.
- * Constable. The Valley Farm.
- * Ring. Blue Flowers.
- * Hitchcock. Flower Girl of Holland.
- * DeHooch. Storage Room.
- * Smith. Cinderella.
- * Smith. Beauty and the Beast.
- * Raphael. Madonna of the Chair.
- * Artz. Orphanage at Katwyk.
- * Degas. La Danseuse.
- * Van Gogh. Going to Work.
- * Forsythe. Old Market Woman.
- * Troyon. Return to the Farm.
- * Cezanne. The Blue Vase.
- * Daumier. The Washerwoman.
- * Frans Hal. Singing Boys.
- x Charlet. Play Day in Holland.
- x Mauve. Spring.
- x Perrault. Childhood.
- x Israels. Interior of a Cottage.
- x Hoppner. The Sackville Children.
- C Yates. Spring on the Delaware.
- J Kotto. Fireflies.
- B Sorolla. The Young Amphibians.
- * Cizek. Austrian Child.
- * Cizek. Creation of Flowers.
- B Maes. Young Girl Peeling Apples.
- * Cizek. Kris Kringle.

FOURTH GRADE

- * Ufer. The Solemn Pledge.
- * Young-Hunter. Santa Fe Trail.
- * Taft. Black Hawk.
- * Houdon. Washington.
- * Friese. Polar Bears.
- * Artz. The Sewing Room at Katwyck.
- * Sargent. Carmencita.
- * Landseer. Chamois the Bay Mare.
- * Mauve. Return to the Fold.
- * Couse. The Primitive Sculptor.
- * Dallin. Appeal to the Great Spirit.
- * Liljefors. Northern Sunrise.
- * Reid. The Coming of the White Man.
- * Hitchcock. Flower Girl of Holland.
- * Ruisdale. Mill of Wyk.
- * Van Gogh. View of Arles.
- * Innes. The Mill Pond.
- * DeHooch. The Storage Room.
- * DeHooch. A Dutch Interior.
- * Hopkins. The Bamboo Screen.
- * Manet. The Fifer.
- * Ufer. The Solemn Pledge.
- * Bonheur. Plowing.
- * L'Hermite. The Wheelwright.
- * Couse. The Indian Harvest.
- x Mauve. Spring.
- x Maes. The Spinner.
- J Yoho. Plum and Moon.
- * Ferris. The Rail Splitter.
- B Brush. Indian Sculptor.
- B Geoffrey. Primary School in Brittany.
- C Couse. Chief's Blanket.
- C Couse. The Apache Bag.
- C Couse. Taos Indian Roasting Corn.
- C Alexander. Picture Writing.
- x Amick. Indian Rug Weaver.

FIFTH GRADE

- * St. Gaudens. Statue of Lincoln.
- * Dallin. Appeal to the Great Spirit.
- * French. Minute Man.
- * Houdon. Washington.
- * French. The Reading Blacksmith.
- * Cezanne. The Blue Vase.
- * Thayer. The Young Woman.
- * LaPage. Joan of Arc.
- * Cezanne. Still Life.
- * Millet. Going to Work.
- * Church. Cotopaxi.
- * Bonheur. The Horse Fair.
- * Millet. The Gleaners.
- * Jacque. The Sheepfold.
- * Hassam. Church at Old Lyme.
- * Hassam. Lincoln Memorial.
- * Pissaro. The Red Roofs.
- * Hobbema. Avenue of Trees.
- * Turner. View of Venice.
- * Baertsoen. View of Ghent.
- * Von Stuck. Spring Dance.
- * Derain. Castle Gandolfo.
- * Giotto. St. Francis Preaching to the Birds.
- * Reni. Aurora.
- * Vermeer. Lady With a Lute.
- * Blommers. Preparing for Church.
- * Rembrandt. Syndics of the Cloth Guild.
- * Boughton. Pilgrims.
- * Abbey. Galahad the Deliverer.
- * Whistler. Mother.
- * Rembrandt. Portrait of the Artist.
- * Zuloaga. Consuelo.
- * Gainsborough. The Blue Boy.
- * Hals. The Laughing Cavalier.
- * Sargent. Carmencita.
- * Vermeer. The Lace Maker.
- * Velasquez. Infanta Maria Theresa.
- * Botticelli. The Magnificat.
- * Raphael. Sistine Madonna.
- * Bellows. Men on the Dock.
- * Beneker. Men Are Square.
- * Titian. Lavinia.
- * Manet. The Breakfast.
- * Van Gogh. Sun Flowers.
- * Duveneck. Whistling Boy.
- * Carriere. Homework.
- * Kemp-Welch. Behind the Plow.
- x Corot. Road Through the Trees.
- * Hyatt. Joan of Arc.
- C Rubens. The Artist's Sons.
- x Ferris. News from Mt. Vernon, 1796.
- C Landseer. Dignity and Impudence.

SIXTH GRADE

- * St. Gaudens. The Puritan.
- * Troyon. Pasturage.
- * Murillo. The Money Changers.
- * Hals. The Jester.
- * Turner. The Fighting Tereraire.
- * Renoir. Paris Boulevard.
- * Oppler. Interior.
- * Matisse. Blue Window.
- * Cezanne. The Blue Vase.
- * Vermeer. Dutch Interior.
- * Terborch. The Concert.
- * Terborch. The Lady Reading a Letter.
- * Inness. After a Summer Shower.
- * Breton. Song of the Lark.
- * Tito. Venetian Waters.
- * Corot. Dance of the Nymphs.
- * Homer. Fog Warning.
- * Rembrandt. Syndics of the Guild.
- * Hals. The Laughing Cavalier.
- * Holbein. Jane Seymour.
- * Zubiaurre. Spanish Beggars.
- * Velasquez. Surrender of Breda.
- * Ruisdael. The Mill at Wyk.
- * Velasquez. Margarita Theresa.
- * Piombo. Columbus.
- * Cezanne. The Village Street.
- * Vermeer. View of Delft.
- * Von Stuck. Spring Dance.
- * Forsythe. Old Market Woman.
- * Vermeer. The Lace Maker.
- * Zuloaga. Consuelo.
- * Kisseoula. Russian Peasant Women.
- * Van Eyck. William and Mary Stuart.
- * Daumier. The Washerwoman.
- * Goya. The Water Carrier.
- x Mauve. Autumn.
- x Inness. Spring.
- * Rodin. The Thinker.
- C Saint Gaudens. Grief.
- J Hiroshige. Fisherman on Rock.
- J Koson. Monkey Reaching for Moon.
- J Hokussi. The Great Wave.
- * DeHooch. Woman Reading.
- C Goya. Navajo Indian.
- C Chardin. The Cook.
- C Goya. Water Carrier.

SEVENTH GRADE

- | | |
|---|---|
| * Frans Hal. The Jester. | * Corot. Dance of the Nymphs. |
| * Da Vinci. Madonna of the Rocks. | * Millais. Boyhood of Sir Walter Raleigh. |
| * Stuart. Washington. | * Watts. Sir Galahad. |
| * Whistler. Mother. | * Whistler. Battersea Bridge. |
| * Monet. Church at Vernon. | * Bonheur. Oxen Plowing. |
| * Holbein. Erasmus. | * Millet. The Angelus. |
| * Velasquez. Infanta Margarita Theresa. | B Inness. Peace and Plenty. |
| * Holbein. The Merchant Gisze. | C Saint Gaudens. Lincoln. |
| * Melchers. Pipers of Balmoral. | B Raphael. Sistine Madonna. |
| * Zubiarre. Spanish Beggars. | B Turner. Grand Canal. |

High School Pupil's Text

Art Appreciation Textbooks, Part VII, entitled *The Round Table Art Book*, and Part VIII, entitled *Modern Art*, are listed as supplementary texts for use in the first year of high school. The art course as outlined in the State Course of Study, Publication 189, pages 457 to 465, may be greatly enriched through the use of these texts. The contents of the texts are adaptable for use in the development of integrated units of study in the various subject matter fields involved in the eighth grade work. The Teachers Edition of the texts should prove especially helpful in the organization and development of an integrated course in art education.

See the list of supplementary books in Art for other books recommended for classroom use.

REPORTS OF TEACHERS AND ADMINISTRATORS

Principals and superintendents are asked to make frequent reports to the State Department of Public Instruction. Most of these reports start with the classroom teacher. Therefore, the accuracy of the teacher in keeping the register and other required records is of vital importance.

Keeping the register. Full instructions for keeping the register are given in the register itself. The information compiled from day to day is the basis of the monthly and yearly grade reports and should be kept up-to-date. Registers should be examined periodically by principals to see that they are properly kept.

Making reports. All required reports should be made promptly and in full. The following are the regularly required reports:

1. Teachers' reports—
 - a. Teachers Monthly Grade Report.
 - b. Teachers Yearly Grade Report.
 - c. Such other reports as may be required by the principal or superintendent.
2. Principals' reports—
 - a. Principal's Monthly Report.
 - b. Principal's Final Report.
 - c. High School Principal's Preliminary Report.
 - d. High School Principal's Annual Report.
 - e. Annual Home Economics Report.
 - f. Preliminary Report for Elementary Schools.
 - g. Principal's Annual Report Accredited Elementary Schools.
 - h. Annual Library Report.
 - i. Other reports required by the superintendent, such as reports on transportation.
3. Superintendents' reports—

(In addition to budget reports.)

- a. Preliminary Statistical Report (By schools).
- b. Statistical Report (Summary).
- c. Financial Report.
- d. Copy of the Annual Audit.
- e. Reports required by the School Commission.

STATE ADOPTED HIGH SCHOOL TEXTBOOKS— SUPPLEMENTARY USE

The dates of expiration of contracts are not given. The revised list will be published each year in the high school register beginning in 1939. The copyright date is given only for the books recently adopted.

Grade	Author, Text and Publisher	F. O. B. Price	Retail Price
I. MATHEMATICS			
Arithmetic and General Mathematics			
8	Lennes and Traver. Lennes Essentials of Arithmetic, Grade Eight. Laidlaw.....	.33	.38
8	Ruch et al. Arithmetic Workbook, Grade 8. Scott.....	.27	.31
8	Stone and Georges. New Mathematics Workbook. Allyn.....	.45	.52
9	Breslich and Traver. Essentials of Mathematics. Laidlaw.....	.39	.45
9	Schlierholz. Ninth Grade Jr. H. S. Mathematics. Webster.....	.12	.14
9	Edgerton and Carpenter. General Mathematics Workbook. Allyn. 1938.		
Algebra and Geometry			
9	Goff et al. Work and Test Book in Elementary Algebra. Row.....	.45	.52
9	Stone and Georges. Unit Workbook in Algebra. Allyn.....	.52	.60
9	Yeingst and Schlierholz. Practice Exercises in Algebra. Webster.....	.24	.28
10	Bartoo and Osborne. Plane Geometry, a Text-Workbook. Webster.....	.48	.55
10	Smith et al. Text and Tests in Plane Geometry. Ginn.....	.57	.66
10	Avery. Geometry Workbook. Allyn.....	.60	.69
10	MacIntyre. Workbook in Plane Geometry. World.....	.60	.69
10	Welte and Knight. Standard Service Geometry Workbook. Scott.....	.33	.38
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	Finance Unit.....	.576	.66
Schorling and Clark.	Mathematics in Life. World.....		
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	Unit C—Drawing to Scale.....	.18	.21
	Unit D—Per Cents.....	.21	.25
	Unit E—Uses of Graphs.....	.21	.25
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	Forsman. Latin Practice Book, 1st Year. Webster.....	.28	.35
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	Berry. Proficiency Tests and Workbook for Second Year Latin. Silver..	.42	.49
	Forsman. Latin Practice Book, 2nd Year. Webster.....	.28	.35

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	For Classroom Use		
Bush and Welbourne.	Design—Its Fundamentals and Application. Little, 1932.....	1.425	1.64
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Moore.	Art Sketchbook. Allyn, 1932.....	.75	.87

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9	Barnes. Directive Study Sheets in World History. Houghton.....	.27	.31
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8	Richardson. The Government of North Carolina. University.....	.21	.25
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8	Rexford et al. Beyond the School. Holt.....	1.05	1.17
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	Winston's Simplified Dictionary, Advanced Edition. Winston. 1937.....	1.77	2.04
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Creative Writing

	Paschall. Creative Expression. Harper. 1933.....	.90	1.04
	Wunsch and Smith. Studies in Creative Writing. Holt. 1933.....	1.02	1.18

Grade	Author, Text and Publisher	F. O. B. Retail	
		Price	Price
Remedial Reading			
	Hovius. Following Printed Trails. Heath.....	.99	1.14
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